# PULP & PAPER

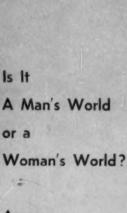
FEBRUARY 1956 - 30th Year

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"Noodle" Pulp—What's Its
Future? page 92

Pensacola—Brought Up to Date page 96



Anyway,
It Surely Is
A Paper World!

see page 80



### Here's where to look for help on Papermaking Problems!

If you're looking for answers to any of the papermaking problems listed on this page, the best place to find them is at Cyanamid where we handle the broadest line of papermaking

Our Technical Service Staff, trained in every phase of papermaking, can be of valuable help. If they can't give you an immediate answer to your problem, our Research Laboratory or Application Laboratory is available for assistance.

Just run down the list below, and tick off your problems - we'll make it our problem to find the right answer for you.

#### SIZING

- () BRIGHTNESS. Where color is important, Cyanamid offers the lightest grades available anywhere in ACCOBRITE® Rosin Size (X, WG).
- ( ) COLOR STABILITY. Accornite shows less degrada-tion on aging than other sizes.
- ( ) DUSTING. Use low-dusting Accounte dry, or use liquid sizes (save on handling, too).
- ( ) COST. There's economy in CYFOR® Fortified Rosin Size (35-45% less required); or in unbleached grades use FF and Dark Wood Rosin Sizes.
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- ( ) HIGH SIZE SPECS. Boost hard size specifications with CYFOR Fortified Rosin Size (lower cost, too).
- ( ) ACID AND ALKALI RESISTANCE. Especially effective beater additive is CYRON® Size (needs no alum, rosin or wax). Surface size with CYRON and starch for high ink and lactic acid resistance.
- ( ) WATER, LACTIC ACID. 25 grades ALWAX® and WAXINE\* Sizes to improve resistance to water, writing or printing inks, varnishes and lactic acid. AEROSIZE® Sizes (high free rosin) boost water resistance.
- ( ) FINE PAPER SIZING. When sizing fine papers use iron-free Alum for highest brightness. Improve surface with CYRON, ALWAX or WAXINE. Reduce pick and curl with PAREZ® 607 Resin.

#### CYANAMID

AMERICAN CYANAMID COMPANY PAPER CHEMICALS DEPARTMENT 30 Rockefeller Plaza, New York 20, N. Y.

Please have your Technical Representative call on the problems checked above.

Company.

Zone\_\_State\_

Address

In Canada: North American Cyanamid Limited, Toronto and Montreal

#### COATINGS

- RAW STOCK. Coating raw stock sized with CYRON takes more uniform coatings to lesser depth; smoother, better printing surface.
- ( ) CLAY AND OTHER PIGMENTS. Improve plasticity, water resistance, surface smoothness, super-calendering and reduce dusting-off with ALWAX Sizes in clay-pigment coatings.
- ( ) PROTEIN-PIGMENT. Raise wet-rub resistance with PAREZ 613 Resin.
- ( ) STARCH COATING. Make starch coatings waterproof by adding PAREZ 608 Resin.
- ( ) STARCH PIGMENT. Coatings take on higher wet-rub resistance when treated with PAREZ 608 or 612. ( ) COATING ADHESIVES. Control viscosity and fluidify adhesives with AZITE® 900 Liquefier. Also use AZITE to preserve paper strength.

#### WET STRENGTH AND OTHERS

- () WET STRENGTH. Highest wet strength, developed right off the reel, is imparted by PAREZ 607 Resin, a MELOSTRENGTH® Resin. Lower degrees of wet strength secured with urea-formaldehyde resins.
- ( ) COLOR RETENTION. Better dispersion of pigments and fillers, and better retention of color, secured with ACCOCEL® 741 Dispersant.
- ( ) LINTING. Linting of wiping papers, towels, tissues and napkins is reduced by use of Parez 607 Resin.
- ABSORBENCY. Improve water-absorbency of towel-ing, napkins, or tissues with CYNOL Rewetting Agents surface or slush-stock application.
- ( ) PICK. Reduce pick in printing papers by treating with Parez 607 Resin.
- ( ) CURL. Curl in paper can be effectively controlled by addition of ALWAX or WAXINE Sizes or PAREZ 607 Resin.
- OSOFTNESS. Permanent softness of tissue, absorbent papers imparted by CYNOL Softening Agents.

  () BROKE. We have a lot of experience with wetstrength broke recovery that can be applied to problems you may encounter.
- CHEMICAL HANDLING. Use of liquid Alum and rosin size will simplify mill handling and may greatly reduce chemical costs.
- ( ) PITCH, Disperse with Accocate 741 Dispersant, Also effective in dispersion of ink, asphalt and other foreign matter.
- FILLER, FIBER RETENTION. Good retention of filler and fiber is promoted by the use of Sodium Phospho Aluminate.

® Registered trade-mark

#### you name it

We can't begin to cover all the possible problems in this space. If you have any special ones not men-tioned that we can help with, note them here.

## •HIGH SPEED

LOW SPEED ...

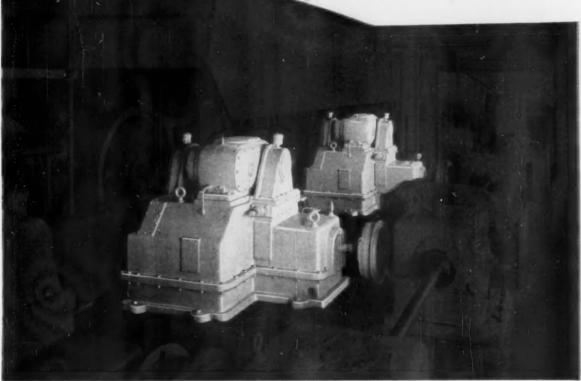


PHOTO COURTESY C. H. DEXTER & SONS

#### **The Rice Barton Differential Drive**

provides precise and instantaneous draw control through the complete range of papermaking speeds.

When a section is shut down, its drive unit is idle, since the unit is separated from the line shaft by its clutch.

This unique feature, plus continuous indication of available draw, and automatic return to pre-set draw after slack take-up makes the Rice Barton Differential Drive the perfect drive for the papermaker.



#### RICE BARTON CORPORATION

Worcester, Massachusetts
Paper Machine Builders Since 1837

West Coast Distributor: Ray Smythe . . 501 Park Building . Portland, Oregon

RB 2-56



Bauer Pulp Cleaners at Chase Bag Company

## Credits BAUER CLEANERS for cleanest kraft ever seen...

Sixteen Bauer Cleaners at Chase Bag Company Chagrin Falls, Ohio, are providing an extremely clean sheet.

"The Bauer Cleaners are doing a marvelous job," says General Manager J. A. Extrom. "I personally have never seen as clean a paper produced by any kraft mill as we have been making since the Bauer Cleaners have been in full operation."

General Superintendent Ralph Pierson states that, among other savings, wire life on their machines has been greatly extended by Bauer Cleaners' removal of sand and grit along with shives, bark, slivers, etc., from the stock.

Get the full story on Bauer Cleaners. Send for bulletin.

THE BAUER BROS. CO. 1706 SHERIDAN AVE. • SPRINGFIELD, OHIO

VOLUME 30

NUMBER 2

February 1956

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Southern Editor
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Adv. Sales Mgr.
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#### EDITOR READS HIS MAIL



#### We Thought the Mills Were Discussing Facts

Thanks for yours of Dec. 7 and your generous offer to let us reprint and quote your editorial on the newsprint price increase (Dec. issue of PULP & PAPER).

Our columns have always been open to "the other side" of the newsprint price controversy. When a newsprint mill stated a reason for increasing its price we published it, but so far no mill in Canada or the United States has offered a real factual analysis of why the increase was necessary in view of their constantly increasing financial situation.

ROBERT U. BROWN Editor, Editor & Publisher

#### **Utilities Should Have Forest Advisers**

In PULP & PAPER (Dec. issue, p. 117) you mention that the Water and Electric Board, Eugene, Ore., has endorsed the idea of trading timberland to replace that put out of production by a transmission line right-of-way strip. We were certainly glad to see them take this view and support this position.

We think it is even more significant that they called on our services as consulting foresters to help plan the location of transmission lines so as to avoid the most productive forest lands wherever possible and to create the least disturbance of scenic and recreational values in the scenic McKenzie River Valley. We have enjoyed the chance to work with their engineers in planning locations which utilize low site forest lands as much as possible and which will require a minimum of damage to young forest stands.

Perhaps other utilities have also called in forestry advisors to help solve location problems. I am sure that other utilities can also save on construction and maintenance costs as well as reduce interference with other land uses and scenic values if they will call in forestry assistance for their engineers when they begin to study preliminary locations for transmission lines.

VERNE D. BRONSON Chief Forester, Tree Farm Management Service

#### **WORLD REVIEW Gets Around**

A few days ago I received a letter from a pulp and paper mill engineer after he had read the report on South Africa in PULP & PAPER's WORLD REVIEW NUMBER.

I keep the WORLD REVIEW NUMBER on my desk all the time, as a very handy and clear international guide on pulp and paper developments everywhere in the world.

HANS BAARS Cape Town, South Africa.

#### Follows Him Around

I was intrigued by the news of the Sterling Drug Co. process for treating sulfite effluent by the flameless combustion method. My brother-in-law is engineer next door to the Borregaard Paper Co., where this is going on, which I visited two years ago. I like to receive PULP & PAPER regularly, no matter where I go. It has followed me to Casablanca in 1952, the Canary Islands in 1954, the Philip-

For Editorials — see page 152

pines in 1955. I have been a reader since 1927, and it is getting better and better.

N. O. GALTELAND

Sandwell & Co., Consulting Engineers, Seattle.

#### Wants Outlet for Texas Wood

Your magazine has been given as being the publication most capable of assisting in the obtaining of information on wood-using industries interested in locating in the South. We would appreciate your helping us contact a papermaking company wishing to relocate or to expand.

I am a forester with a private lumber company and live in Newton County, Texas. Newton County has many advantages to offer. Some of these are an abundant water supply from county-owned reservoirs, adequate rail transportation, cheap labor, and a sufficient source of pulpwood. These factors are supported by natural gas pipelines and adequate electrical power.

A desirable pulp mill would be furnished a location by deed without cost and supported by the people of Newton County with all sincerity. Two county dams and state and federal dams are to be constructed in the near future.

F. J. IRWIN

Box 206, Wiergate, Texas.

#### **Liked Rome Kraft Story**

You will be pleased to know there have been many favorable comments on PULP & PAPER's story of Rome Kraft Co. I am sure it will be of interest throughout the industry.

R. J. KELLY

Industrial Relations Mgr., Rome Kraft Co.

#### South Africa Wants Kraft

We are interested in receiving offers from manufacturers not represented in South Africa able to compete in this market. We are particularly interested in kraft paper suitable for the manufacture of corrugated cardboard containers and other papers and boards suitable for the printing and manufacturing industries here. We have been established since 1938 and bank with the Barclays Bank D.C.O., Voortrekker Road, Parow, C.P., and 120 Broadway, New York.

KURT LEYSER

PO Box 2, Elsies River, South Africa.

#### "Appreciated Throughout the World"

Your WORLD REVIEW number 1955 contains an extremely interesting map showing world pulp trade together with a vast amount of additional information, which will be appreciated by those who have business dealings with manufacturers of pulp and paper throughout the world.

A. DANCIGER

Vice President, Petrochemicals Co., Long Beach, Cal.

HERE'S HOW to address your letter to this department:

No anonymous letters will be considered but names may be withheld if desired.



Want extra accuracy extra long life too?



## SPECIFY FARREL®

In a century of experience, Farrel-Birmingham has developed the specialized skill and equipment necessary to give you rolls that feature a bonus combination of extra accuracy and extra long life.

Greater roll-grinding accuracy than has ever been possible with any other machine is achieved on the Farrel swing-rest grinder. Rolls are given a high finish, and an automatic crowning device unerringly produces the correct shape and degree of crown. Accuracy is checked with the exclusive Farrel roll caliper, capable of measuring variation down to .0001"

The extra long-life of a Farrel roll starts in the casting pit, where rolls are cast so true they require a minimum of turning and grinding to finish to size. This casting accuracy is responsible for the full depth of hard chilled section being retained nearly as cast-an assurance of long roll serviceability.

For further information, send for a copy of Bulletin 116.

FARREL-BIRMINGHAM COMPANY, INC.
ANSONIA, CONNECTICUT

Plants: Ansonia and Derby, Conn., Buffalo and Rochester, N. Y. Sales Offices: Ansonia, Buffalo, New York, Akron, Chicago, Fayetteville (N.C.), Los Angeles, Houston

#### MORE CALENDERS ARE EQUIPPED WITH FARREL ROLLS THAN ALL OTHER MAKES COMBINED!

#### FARREL PAPER MILL MACHINERY

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ROLLS: Chilled Iron • Dry Sand • Meehanite • Alloy Iron
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GEARS, CUT: Spur, Single and Double Helical (Farrel-Sykes Continuous Tooth Type) SPEED REDUCING GEAR UNITS • SPEED INCREASING GEAR UNITS • FLEXIBLE COUPLINGS

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#### STRICTLY PERSONAL

#### NORTHEAST NOTES

#### David Luke Aids Fund; New St. Regis Secretary

DAVID L. LUKE, JR., president, West Va. P & P Co., is enlisting aid from the industry for the N. Y. Public Library's 1956 fund drive. . . . ANGUS J. GARD-NER has been named vice president of Rice Barton to succeed the late G. A. PETERSON. . . . HOMER CRAW-FORD, legal counsel for St. Regis Paper Co. for many years, has been appointed secretary, succeeding WILLARD J. DIXON, who continues as vice president. Mr. Crawford is a graduate of Amherst College and received his LLB from Vir-. WILLIAM M. McNAIR, formerly Midwestern district Manager of pulp sales for St. Regis, is now sales manager for the kraft division's pulp department. He joined St. Regis in 1946 and has been active in the industry for 20 years. His headquarters will be in New York, but he will continue temporarily at Cincinnati. . . . DR. ALLAN C. HILL, first vice president, Montmorency Paper Co., was re-elected president of Association of American Wood Pulp Importers. KARL CLAUSON, president of Stora Kopparberg Corp., was re-elected vice president; V. RAMSAY, Pulp Sales Corp., was re-elected treasurer and PER WESTAD, Borregaard Co., Inc., was reelected secretary. ALBERT BLATT-MANN, Pagel, Horton & Co., was reelected a director. . . . The "Unexecutive Pulpmen's Assn. of New York" (membership limited to pulp salesmen without title), held its annual meeting and elected ED BULLARD, Perkins-Goodwin Co., president, succeeding TOM SALB, Bulkley, Dunton Co., who was "kicked upstairs" as chairman, STAN McDER-MOTT, B-D was named treasurer, and BRUCE BROWN, Mead Sales, secretary. . . . ELOF HANSSON, of Gothenburg, one of Sweden's leading and most successful businessmen, recently died, nearly 87. His oldest son, Gunnar, is president of Elof Hansson, Inc., in New York. . . JOHN W. DANIELS is now superintendent of the Connecticut Corrugated Box Division, Portland, Conn., of Robert Gair Co., Inc. He succeeds JOSEPH M. MURPHY, who was recently named special production rep. of Gair's container div. . . . EUGENE H. CLAPP, executive vice president of Tileston and Hollingsworth Co., advises PULP & PAPER that CHARLES H. CORNELL, treasurer, has been elected a director. Mr. Cornell is also treasurer and director of Penobscot Chemical Fibre Co. . . . CHARLES U. HARVEY is now general sales manager of the container division of Gair. ALLEN F. HORTON, president, Curtis Paper Co., says that you don't have to be crazy to commute from Philadelphia to New York, but these gems from his fellow commuters prove it's helpful: "My girl friend is melancholy. Has a head like a melon and a face like a collie." "Who was that oboe I saw you with last night? That was no oboe, that my fife." BOB STERNBERG, superintendent, power plant, Hammermill Paper Co., recently enjoyed a vacation through the sunny South. . . . MR. & MRS. PHIL HERSHEY, (he's technical director at P. H. GLATFELTER CO.,) recently announced birth of Elizabeth Jane, number three. . . . AMERICAN CYANAMID CO. will build a liquid alum plant in Plymouth, N. C., says R. E. SUMNER, general manager, Industrial Chemicals Div. The plant will be sufficient to care for expanding needs of the paper industry in Virginia and North Carolina.

#### SOUTHERN NEWS

#### Hartman Dies in Mobile; Veterans at Brunswick

R. E. HARTMAN, age 73, a pioneer in Southern pulp and paper, died in Mobile, Ala., Dec. 19. A native of Indiana, he was with E-Z Opener Bag Co., Braithwaite, La went to Tuscaloosa, Ala., when E-Z consolidated with Gulf States and built a modern mill. He was with St. Joe Paper Co., and headed Mobile Paper Mill Co., from 1933 until it was acquired by Stone Container Corp. . . . JOE JOINER, Baylor graduate and p.g. student at Arkansas, has joined Crossett Paper Mills, as assistant to the treasurer. TED M. PHILLIPS is new personnel counsellor for Crossett. He is an Arkansas graduate and Korean war vet. . . . ROBERT I. MASON, technical sales, and DAVID W. FLOTOW, technical service, are new Southern sales district staff men for Hercules Powder in Atlanta. Mr. Mason moved there from Canada; Mr. Flotow from Michigan. . . . New branch managers for the Taylor Instrument Cos. are WARREN GRAY, Greensboro, N. C.; ROY BAILEY, Houston and JACK BARKER, Atlanta. Gray has been with Taylor for 16 years. . . . Thirty years continuous service with Albemarle Paper Co. at Richmond has earned 29 employes gold wrist watches, among them President F. D. GOTTWALD (1918), BASIL W. COALE, vice president and secretary (1907), J. W. JORDAN, master mechanic





Wilkin Advances in Hooker; Huss Heads Acme Division

ROBERT E. WILKIN (left), elected Director and also named Vice Pres. and Director of Sales of Hooker Electrochemical Co. He was formerly VP and Gen. Sales Mgr. Native of Newark, Ohio, with degrees from Denison U. and Iowa, '20 and '21, he taught at Iowa and Kansas State, and then went into industry. He joined Hooker in 1936 as Sales Mgr. for Fine Chemicals, and became Gen. Sales Mgr. in 1949.

Mgr. in 1949.
W. SHERIDAN HUSS (right), has been appointed Pres. of Acme Steel Products Div., Acme Steel Co., succeeding John Bucuss, retired. Mr. Huss has been with Acme since 1919. He handled Southern sales in recent years, became Vice Pres. and Sales Mgr. a year ago. He recently returned from a trip to the West Coast, observing forest industry activities particularly.

(1920), A. W. BROWN, asst. supt. (1923), STANLEY GUILD, purchasing agent (1925), GEORGE B. BERGER, vice president and sales manager (1925). Brunswick Pulp & Paper key men with 18 years service-since the mill was built-G. K. SINGLETARY, asst. gen. mgr., J. L. BROWN, asst. supt., W. J. BROWN, plant supt., A. R. CARRICK, asst. supt., J. H. COWMAN, chief electrician, K. G. MESCHKE, asst. forest lands mgr. . . . T. A. "SPEC" BEARRY moves up from 2nd asst. pulp mill supt. at I. P.'s Natchez mill, to 1st assistant, and GUY WOMBLE, former tour foreman in I. P.'s Louisiana mill, steps into "Spec's" shoes at Natchez. . . . ROBERT W. MORSE joined Union Bag & Paper Corp. as special assistant to the treasurer. Mr. Morse just concluded a four year term as Mayor of Easton, Pa., and was formerly plant manager of Rock Wool Insulation Div., Great Lakes Carbon Co. He is from Dartmouth, class of '39. WILLIAM B. GOODWIN has joined the Polychemicals Div. of West Virginia Pulp & Paper Co. at Charleston, S. C. Mr. Goodwin was formerly with the Mc-Cormick Spinning Mill. . . . CROSS PUMP & EQUIPMENT Co., of Charleston, W. Va., has been named sales rep. Continued on page 10

## Why do we bring your mill into our laboratory?

To select from Nopco's great variety of defoamers, the one that's right for you

#### and here's how we do it



White water from a paper mill is tested for foaming in the Nopco laboratory. In only 10 seconds the solution shows a degree of foaming dangerous to good sheet formation.



After repeated tests of the white water with different defoamers, a Nopco defoamer is found which even after 4 minutes gives almost no foam. This is the defoamer Nopco will recommend.

Nopco well knows that an excellent defoamer in one paper mill may be an indifferent performer in another. Since our aim is always to reduce foaming to the minimum under any conditions, we have set up testing techniques which in effect "bring your mill into our laboratory."

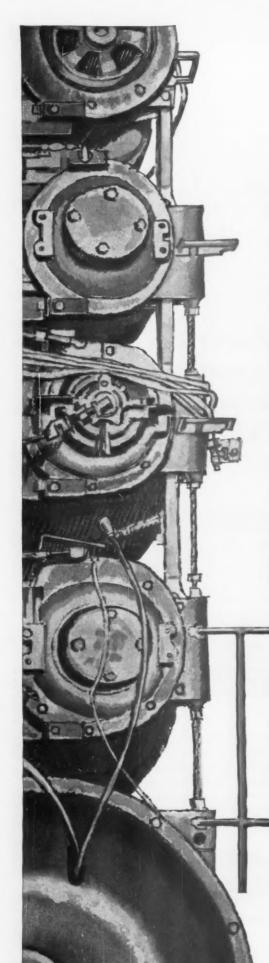
We do this by testing samples of white water from your mill, with every potentially effective defoamer—including if you like, the one you are now using. When we have finished these exhaustive and accurate tests, we are able to determine scientifically which defoamer will give your mill the best fibre distribution, fewer breaks, higher machine speeds, and improved sheet formation that is your due.

Nopco, the very first to make a chemical defoamer for the pulp and paper industries, has an unrivalled wealth of first-hand experience—and the widest variety of defoamers, both paste and liquid. Why not make sure you have the best possible defoamer, by consulting Nopco today?

Nopco Chemical Co., 428 Water St., Harrison, N.J.



PLANTS: Harrison, N. J. . Cedartown, Ga. . Richmond, Calif.



To the mill executive who decides on lubricants-

## Three good reasons for specifying STANOIL Industrial Oil

- **1** The increased demand for paper products results in machinery being operated at speeds higher than rated capacity. Continuous production has placed greater burdens on lubricating oils. Without the best lubrication, equipment failures may occur. Best idea is to specify Stanoil Industrial Oil.
- **2** Cost of repairs and replacement of parts added to the loss of production, run many times the cost of lubrication. A small investment in Stanoil Industrial Oil is the best possible protection against bearing failures, repair costs and production loss.
- **3 STANOIL Industrial Oil** can be used in a multitude of applications. Inventories of lubricants can thus be reduced and the danger of lubrication failure due to misapplication can be cut or even eliminated.

Get more facts about Stanoil from your nearby Standard Oil lubrication specialist. There is one near you in any of the 15 Midwest and Rocky Mountain states. Or write Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

#### **Quick Facts About STANOIL Industrial Oil**

- Stability—STANOIL's antioxidant gives oil resistance to chemical change, minimizes deposits.
- Rust Prevention—Inhibitor in STANOIL "plates out" on metal surfaces, prevents corrosion.
- Cold Starts—STANOIL has low pour point. Flows freely from cold start. No need for costly warm ups.
- Resists Effects of Temperature Change—STANOIL has high viscosity index, is resistant to temperature change. Lubricates in both high and low temperature service.
- Has Excellent Demulsibility— STANOIL is refined to eliminate emulsion problems, contains additive to minimize foaming.

STANDARD OIL COMPANY
(Indiana)





#### ... always yours in Edgar Paper Clays

Consistent Quality in Paper Clays is the solid record of Edgar Clay quality control procedures. Paper makers can and do depend on Edgar Product Standards every time, every car, year in, year out.

Put Edgar Clays to the Test... To insure yourself of the best possible raw materials, put Edgar Coating and Filling Clays to your own tests. Results? You will find that Edgar Clay quality stands out... not alone on high brightness, low moisture, controlled viscosity, and minimum residue... but even more important on true uniformity... that added quality to insure you consistently of highest sheet standards in your finished products.

We'll Help You Three Ways...(1) Serve you by supplying the paper clay exactly suited to your specific needs; (2) give you the benefits of the most modern processing and quality-control techniques; (3) help you—through products and service—to turn out the best papers modern technology can produce.

EXTRA DIVIDENDS...To help you select the product most suited to your requirements, there have been published full specifications and basic properties

of all Edgar Coating and Filler Clays. A copy of this bulletin is yours for the asking. Please use the coupon below.





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#### STRICTLY PERSONAL

#### MORE SOUTHERN NEWS

in Southern W. Va., Eastern Kentucky and Western Virginia for Morris Machine Works of Baldwinsville, N. Y., manufacturer of heavy duty slurry pumps. . . . L. F. DOWDING is new assistant mfg. general manager, Jefferson Chemical Co., Inc., Houston, Tex. . . . JOHN H. TRUESDAIL has been appointed assistant plant manager of the Pisgah Forest film plant of Ecusta Paper Corp. He

graduated from University of Oregon, received doctorate at U. of Michigan. . . . PAUL R. VICKERY is due congratulations on his appointment as sales manager of lumber products of the Forest Products Div. of Olin Mathieson Chemical Corp. . . . And as a final note for the month, if you're thinking about coming South to bask in the warm weather this winter heed the advice of Bathurst Power & Paper's peripatetic research director, JACK LIMERICK, who left Canada,

with the temperature reading a cool 28 and got off the plane in Savannah, Ga., expecting to shed his coat. The temperature: 14. Said Jack: "I'm going home and get warm!"... selah til March.





#### **New Chemicals Posts in South**

LOUIS A. "TOMMY" THOMPSON (left), is now Special Sales rep, Southern District, and J. HUSTON McCLANE (right), has succeeded him as Mgr. of Southern Sales District, Hercules Powder Co., based in Atlanta.

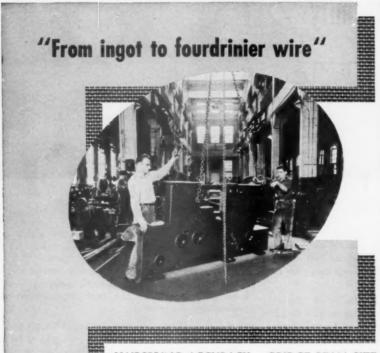
(right), has succeeded him as Mgr. of Southern Sales District, Hercules Powder Co., based in Atlanta.

MILT M. BIXBY, Dept.'s Director of Sales, also announced WILLIAM E. HAMILTON is new Asst. Mgr., Southern District, based in New Orleans. Mr. Thompson has been with Hercules since 1924, was Mgr. at Holyoke, Mass., and Marrero, La., before Atlanta. Mr. McClane, graduate of U. of Fla. and a p.g. at U. of N.C., joined Hercules in 1939.

#### MIDDLE WEST MEMOS

#### New Supt. at Bergstrom; Morey Fieweger Dies

MAURICE LARSON, who started as machine oiler in 1923, is new supt. of Bergstrom Paper Co. He succeeded RICHARD ELIAS, who has gone to the Marathon mill at Rothschild, Wis. RICHARD PETERSON, who came from Riegel in 1954, is Bergstrom's asst. supt. GEORGE SISLER, from Abitibi, succeeded him as technical director. . HARWOOD ORBISON, just elected president of Appleton Woolen Mills, and his wife, Lucile, are proud parents of a baby girl, who is named Marcia. This is their third daughter; they also have a . MOREY W. FIEWEGER, 57, widely known in the graphic arts industry and senior coated paper salesman for Consolidated Water Power & Paper, died at his Evanston, Ill., home Dec. 16. He is a brother of FRANK FIEWEGER. veteran woodpulp salesman in the Middle West, who only recently retired and moved to Florida. . . . CHARLES H. SAGE, Kimberly-Clark v.p. for 18 years, started as office boy. He has retired to his fruit and cattle ranch, 100 mi. south of San Francisco. . . . JOHN McPHER-SON of Mosinee Paper Mills, boss man in the Northwestern Supts. Division, has meetings set up for Appleton on Mar. 22 and Rhinelander on May 17. ART Continued on page 14



#### HAIRSPRING ACCURACY - BRIDGE-BEAM SIZE

Our machine shop doesn't make hairsprings or bridge beams, but our maintenance and construction operations demand equal versatility from our men and machines. Hub of an integrated operation such as ours, its skilled personnel are ready to machine a part to a fraction of a thousandth of an inch, on a tiny instrument part or a huge loom frame.

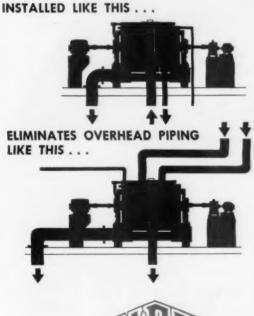
Because our plant is completely integrated, every wire we ship has undergone thorough and continual analysis, control and testing from the raw metals to your finished fourdrinier wire ready for quality paper production.

We are proud to say they are truly ours — "from ingot to fourdrinier wire."

Belleville, N. J.

## For a Real "Clean Job"-





## **IMPCO** LINDBLAD PULP SCREEN

As a top performer in pulp screening, the Impco Lindblad has many outstanding features. For instance, due to its unique vat design, at no extra cost to the mill, sub-floor piping is possible. This means significant savings in piping expense on the runs for inlet and outlet piping. The neat arrangement provides uncluttered tending aisles and requires minimum floor space in either single or multiscreen installations.

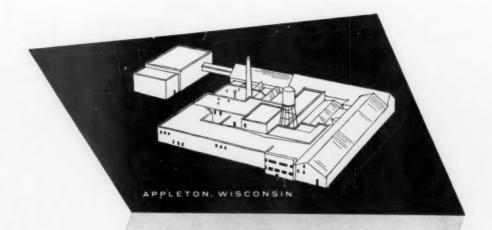
These higher density type vibrating units are delivering quality pulps at densities above 1.5% A.D. in bleached, unbleached, semi-chemical and board mill installations.

For complete information on this screen, send for Bulletin B4-1.

MACHINERY INC.

NASHUA, NEW HAMPSHIRE

SHERBROOKE MACHINERIES LIMITED, SHERBROOKE, QUEBEC Manufacture Similar Equipment in Canada



Confidence....in the paper industry

Foresight.....to anticipate changing
conditions and requirements of
the paper industry with new
manufacturing facilities



#### **Appleton Wires are Good Wires**

Appleton Wire Works, Inc.



INTERNATIONAL WIRE WORKS, MENASHA, WISCONSIN . . . AN AFFILIATED COMPANY SINCE JANUARY, 1955



Wyatt Metal & Boiler Works is proud to have a part in this promise of converting agricultural waste into useful merchandise.



## PULP & PAPER

#### STRICTLY PERSONAL

#### MORE MIDDLE WEST MEMOS

BUNKS of Consolidated is working on the Appleton event. . . . HAROLD L. GRUEHN heads a new office for Allis-Chalmers at 1000 W. College Ave., Appleton, as base for Northern Wisconsin and North Michigan. He'll have two sales reps. with him in Appleton—JOHN H. ERNST JR., and JOSEPH PUKAC. . . . JOHN M. MUSSER of St. Paul, is a new director of Weyerhaeuser Tbr. Co. . . . NAM has released an interesting sketch on COLA PARKER, its new president (reported in PULP & PAPER Sept. issue that he would be first forest industries man to head NAM). His first name is diminutive for the Italian Nicola, but he is of English descent on both sides. After a 25-year career as a lawyer in Manhattan, he yearned for his Wisconsin woods and streams, so he joined Kimberly-Clark

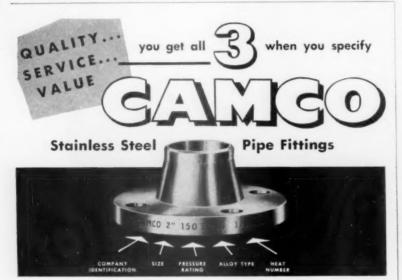


#### Jim Mair Joins Chicago Bridge: Kelly Promoted by Carpenter

JAMES MAIR (left), who has traveled to many mills in America and elsewhere on pulp mill projects, has joined the new Conkey Division of Chicago Bridge & Iron Co., builders of evaporators for pulping operations. Since 1944 he has been with Goslin-Birmingham, designing and heading up sales of similar processing equipment. Chicago Bridge now builds the Rosenblad switch system type of evaporator. Mr. Mair was born in Scotland, first coming to the U. S. in 1930.

PAUL E. KELLY (right), has been promoted to Asst. Sales Mgr. for Alloy Tube Division, Carpenter Steel Co., with head-quarters at Union, N. J. He had been Eastern Regional Sales Mgr. since Apr. 1953, and before that was Western Regional Sales Mgr., based in San Francisco. Carpenter products are used widely in chemical pulping.

as financial v.p., became president and chairman. . . . ROBERT FAEGRE, new president of M & O Paper, succeeding his father, had his first assignment with that company on a special mission to Finland. . . . M & O has a new manager of employe and community relations, GEORGE G. GIBB, who has had 29 years in that work with International Paper and Spruce Falls. . . . DR. KYLE WARD, Institute of Paper Chemistry, is a new alternate counsellor of the American Chemical Society. . . . JAMES SCHOETTLER, from Kimberly-Clark, Purdue and the Institute, is new technical supervisor of Consolidated's Wisconsin Rapids mill, under Tech. Director G. K. DICKERMAN. . . . L. R. STEIN-BACH is new general traffic mgr. for Mead Corp., and F. F. KATOR takes on special work as associate general traffic mgr., at his own request. . . . PETER M. CHIUMINATTO, secy.-treas. of Charmon Paper Mills, was elected new treasurer of the Sulfite Pulp Mfrs. Research League and Products Corp. . . . ALEX GLASSMAN, tech. consultant, R. R. Donnelly & Sons, Chicago, heads a new TAPPI surface strength testing committee. . . . W. S. CORBIN, Black Clawson Co., is going to tell Michigan Supts. about Fourdrinier designs at Feb. 9 meeting in Kalamazoo, says Secy. VINCENT REDMOND of Kalamazoo Paper Co. . Gardner Board has promoted TONY TSENG, who was born in Shanghai, to Continued on page 18



QUALITY . . . All CAMCO fittings are permanently marked with the CAMCO trade name as evidence of complying to the high standards of CAMCO quality.

**SERVICE** . . . We are able to expedite delivery because our products are sold and stocked by distributors throughout the country and backed

by large stocks at the plant for requirements in excess of normal.

VALUE . . . All our facilities are geared to the manufacture of STAINLESS STEEL FITTINGS only . . . the economies resulting from this specialization are passed on to you, providing DROP FORGED fittings, where possible, for no more than the cost of cast fittings.

### One source for all your Stainless Steel Fitting Requirements SCREWED • FLANGED • WELDING



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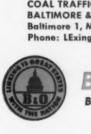
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You'll win in the long run by burning Bituminous! Today and tomorrow, supply is unlimited and the vast reserves are right on the threshold of the major manufacturing centers. Bituminous, too, has the highest potential for cost improvement among competing industrial fuels. Year in and year out new methods and machines are designed to control costs and improve burning efficiency.

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## (Fal

# LECTRO-CLAD Nickel Plated Steel Plates will give it to you

Yes, you can get low-cost, yet effective protection against contamination and corrosion with all these chemicals...and many more!

Effective in heavy industrial applications where the corrosion rate does not exceed 0.0015 inches per year, CF&I LECTRO-CLAD Nickel Plated Steel Plates successfully combine the corrosion and contamination resistance of nickel and the economy and strength of carbon steel.

That's because CF&I LECTRO-CLAD is made by the Bart Process, which consists of electrodepositing a heavy layer of 99% pure nickel on a carbon steel plate. This process results in a permanent bond between the nickel and the steel base. The nickel plating is customarily supplied in the 8-10 mil range; however, it can be plated up to 15-20 mils, if specified.

What's more, CF&I LECTRO-CLAD Nickel Plated Steel Plates are easily fabricated without costly special equipment. Just use regular shop equipment and bend it... weld it... roll it—the protective nickel layer will not check, spall or flake!

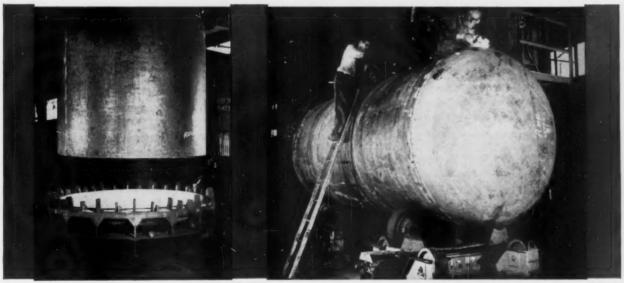
Ask our nearest sales office for the complete story on economical, effective, easy-to-fabricate CF&I LECTRO-CLAD Nickel Plated Steel Plate\* today. Wickwire Spencer Steel Division, The Colorado Fuel and Iron Corporation, P. O. Box 1951, Wilmington, Delaware.



CF&I LECTRO-CLAD Nickel Plated Steel Sheets, Pipe, Fittings and Heads are also available.

# protection against with these chemicals?

- Citystic South Co. Chloringted Hydrocarbons : Cold Hydronuoric Acid Dibutyl Phihotology
- Mothyl Alcond Petroleum Catalysts Phenol Potash C. Resin Plasticizers Salt
- Sodium Solphato . Titanium Dioxido . Tricresyl Phosphate



Assembling a tank fabricated from CF&I LECTRO-CLAD Nickel Plated Steel Plates.

The heads have also been nickel electroplated by the Bart Process.

3798

## Claymont Steel Products



Products of Wickwire Spencer Steel Division • The Colorado Fuel and Iron Corporation

Ahilene - Albuquerque - Amerille - Atlante - Billings - Boise - Boise - Butte - Casper - Chicago - Denver - Detroit - El Paso - Fr. Worth - Houston - Lincoln (Nob.) - Los Angeles Wew Orleans - New York - Oakland - Odesse - Oklahome City - Philodelphia - Phoenix - Portland - Pueble - Sult Lake City - San Francisco - Seattle - Spokana - Tuisa - Wichita CANADIAN REPRESENTATIVES AT: Edmonton - Yancouver - Winnipag

#### OTHER CLAYMONT PRODUCTS

Stainless-Clad Plates • Manhole Fittings and Covers • Large Diameter Welded Steel Pipe Flame Cut Steel Plate Shapes • Flanged and Dished Heads • Carbon and Alloy Steel Plates

## PULP & PAPER

#### STRICTLY PERSONAL

#### MORE MIDDLE WEST MEMOS

director of industrial engineering. PAUL YINGST, an ex-Pennsylvanian, and JIM THOMPSON, an Illinois native, are new staff assts., general management. . . . At the Nekoosa, Wis., kraft mill, ODIN THORSTENSON, ED OBERMEIER and DAN EDWARDS have been upped to tour supervisors. JAMES O'BRIEN is new supervisor of costs and budgets for

Nekoosa-Edwards, JAMES JESSE was promoted to supervisor of insurance and credits, and HOWARD YEAGER succeeded him as supervisor of finance accounting. ELDON SISCO was promoted to sales correspondent and special projects asst. . . . CHARLES CUMBY is new plant mgr. of Stone Container's Chicago box plant. . . .



#### In Midwest and East

GORDON MORSETH (left) is now Vice President of Rochester Paper Co., small specialties mill at Rochester, Mich., with one 66 in. Fourdrinier, making blotting, filter, impregnating and kraft specialties, also special products for Fisher carbodies. Born in New Westminster, B.C., he lived later in Everett, Wash., graduated from Univ. of Washington '37, and was a production supervisor while with Puget Sound Pulp & Timber Co. and Detroit Sulphite Pulp & Paper.

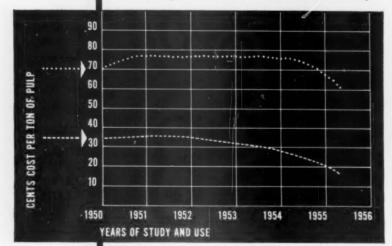
ROBERT J. SUDLOW (right) is new District Representative for the New England States for the Frank G. Hough Co. of Libertyville, Ill. Hough distributors whom he will assist with the sale and servicing of the Payloader line of tractorshovels and tractors are: Clyde Everett Equipment Co., Burlington, Mass. and East Providence, R. I.; Graves Equipment Co., Northampton, Mass. and Burlington, Vt.; R. C. Hazelton Co., Manchester, N. H.; Wilhelm-Davies, Inc. at Wallingford, Conn. Mr. Sudlow, a World War II veteran, is married, has two children and resides in Niantic, Conn.

## Rhodia

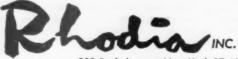
#### announces

a sharp price reduction in ALAMASK, with improved odor abatement for all operations of alkaline pulping, at new low costs per ton of pulp.

This means lower prices for the new ALAMASK P6D ... lower cost per ton of pulp for control of malodors, whether you treat gases from digester operations, recovery, or condensers. Let the chart tell the story —



ALAMASK will do the job cheaper with better than average odor control. May our trained engineers help you with your malodor problems?

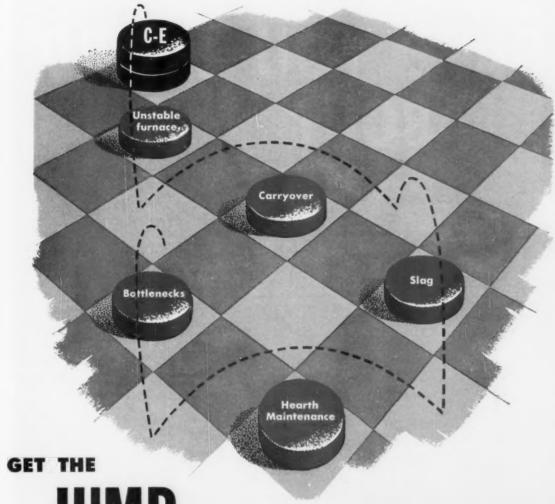


230 Park Avenue, New York 17, N. Y. PLANT: PATERSON, N. J.

#### PATTER FROM PACIFIC COAST

#### New Purchasing Posts; Hercules Names New Rep.

WILLIAM E. PARKINSON, CZ Camas purchasing supervisor, has been promoted to superintendent of purchasing, storage and shipping-a new position here. . HOWARD BECKER succeeds Mr. Parkinson as purchasing supervisor . . . suc-"PETE" PETERSON, ceeding transferred to Milwaukee as tech. sales rep. for Hercules Powder Co. for the Portland, Ore., district is CHARLES H. CHAPMAN, but he will headquarter in San Francisco. He is from Holyoke, Mass. . . . REID L. MITCHELL, research group leader, Rayonier, Shelton, Wash., is new chairman of American Chemical Society's division of cellulose chemistry. . . . ROYAL W. HUNTER, No. 2 machinetender and a 38 year veteran, has retired at Simpson Paper Co., Everett. . . . CHARLES D. DICKEY IR., administrative assistant to Vice Pres. PAUL BALDWIN at Scott's West Coast headquarters in Everett, is one of the new Scott directors elected to the board of B. C. Forest Products Ltd. . . . HER-MAN SIMPSON, Seattle consulting engineer, is off to Mexico again on a mill Continued on page 22



## JUMP ON CHEMICAL RECOVERY PROBLEMS WITH A C-E RECOVERY UNIT

**Unstable furnace** conditions are "checked" by C-E's system of suspension drying combined with an exclusive system of liquor density control assuring uniform liquor feed of maximum density.

The result? Uniform fuel bed - consistently high reduction performance.

Carryover of ash and unburned combustibles is minimized by the exclusive C-E system of tangential secondary air admission. Complete, intimate fuel-air mixtures make for best combustion.

The result? Efficient burning and a cleaner boiler.

**Slag** is no problem with the C-E panel type superheater with widely spaced elements. Each element consists of a solid wall of tangent tubes which allows no foothold for slag.

The result? Cleaner superheater surface, uniform gas flow, less steam needed for soot blowing.

**Hearth Maintenance** is eliminated with the C-E decanting hearth design. A layer of chilled smelt covers the water-

cooled furnace floor and molten smelt leaves the furnace without contacting hearth refractory or tubes.

The result? No more "downtime" for hearth repairs.

Bottlenecks in production are avoided by the conservative C-E design which, when teamed with a standard electrostatic precipitator, allows a greater range of operation at much lower cost.

The result? Greater overload capacity, less power consumption, minimum stack losses.

To get the Jump on Your chemical recovery problems - See C-E!

## COMBUSTION



Combustion Engineering Building 200 Madison Avenue, New York 16, N. Y. CANADA: COMBUSTION ENGINEERING-SUPERHEATER LTD.

## HAVE YOU HEARD ABOUT HUYCK

#### BOARD MILLS REPORT

#### FINE MILLS REPORT

- Ran 19 days vs. 6 to 11 days average. Did not narrow.
- On 38 days. Average life 20 to 24 days. Broke mill record of Ran 50 days. This is a new record.
- Felt ran cleaner and softer. Good life.

#### TISSUE MILLS REPORT

### NEWSPRINT MILLS REPORT

- Ran 30 days. This is above average life. On record 53 days; range from 35 to 50 days in this positi
- On for 33 days; well above average life.
- On 2012 days. Average life about 18 days.

# THE LATEST ...

## This Case History Report Proves It truly adds a 4th Dimension to felt performance!

Seven months ago Huyck announced its amazing. new 4-D TREATMENT one of the greatest advancements in modern feltmaking, available only on felts made by Huyck.

Today we give you a summary briefed on these pages of what a few of many leading mills have reported to us ... stating that, in virtually all cases, the 4-D TREATMENT improves TOUGHNESS, FINISH and OPENNESS all at once!

Read the factual comments of these Papermakers and you'll see how the 4-D TREATMENT gives a higher resistance to wear so felts last longer . . . maintains openness and softness . . . improves size stability . . . and protects against both bacterial and chemical attack.

Get the full story of the 4-D TREATMENT from your Huyck Sales or Field Service Engineer It's a big step toward producing better paper at lower felt cost per ton.

#### KRAFT MILLS REPORT

- days. Operated well
- 34 days. This is good li down with life still rema 12 days. Size stability 1d. Above average life.

#### ROOFING MILLS REPORT

- TIMETY. 18 days vs. average of 6 days



Write today for your free copy of our booklet describing the new

**4-D TREATMENT** 



F. C. HUYCK & SONS . Reasselver, New York Established 1870



## PULP & PAPER

#### STRICTLY PERSONAL

#### MORE PACIFIC COAST PATTER

project there. . . . RAYMOND A. DUPUIS received his 25-year Crown Z award watch at Camas mill just prior to transferring to St. Helens division as resident manager. This is the 34th watch awarded to Camas employes during the year. . . . HAROLD M. ELY, formerly in charge of pulp and paper studies at Oregon Forest Products Laboratory, is

with development department, Potlatch Forests, Inc., Lewiston. . . . PETER T. SINCLAIR, Crown Z vice pres., is a new director of California Manufacturers Assn. . . . CHARLES F. LOHSE, manager of sales training at CZ San Francisco headquarters, has received the National Society of Sales Training Executives 1955 award for best contribution to advancement of sales training. . . . CLARENCE A. ENGHOUSE, assistant resident man-





#### In West Coast News

CHARLES E. ALLEN (left), is new Director of Public Relations, Crown Zellerbach Corp., succeeding William D. Welsh, retired. Mr. Allen was Asst. Director since Sept. 1954. He attended Stanford, and after war service as a Navy officer, he was Executive Officer and Instructor at Hoover Institute, Stanford, and in recent years was Public Affairs Advisor for the U.S. United Nations Mission and for Ambassador Dean at Panmunjom, Korea, negotiations.

WILLIAM WISINSKI (right), new Supt. of Los Angeles Corrugated Box Div. of Robert Gair Co., Inc. He had been Foreman at Los Angeles since Sept. 1954, and previously was Gen. Foreman at Gair's Teterboro, N.J., Plant.

ager of West Linn plant, has been named president of Oregon City C. of C., JOHN M. FULTON, CZ's director of purchases, is new director of the Portland Chamber, and B. C. SMITH, resident manager at Lebanon, Ore., became director of local C. of C. . . . HENRY HOEGG, veteran Rayonier woodmill superintendent at its Grays Harbor Division, has retired. For some time before the division commenced operations he procured wood for Rayonier's Shelton Division which started up in 1927. . . . DONALD C. ALTMAN, sales representative in Seattle office of Allis-Chalmers Mfg. Co., has been transferred to the London office of Allis-Chalmers Great Britain, Ltd. He was succeeded in Seattle by WILL G. LOWE. Mr. Altman is in charge in London and serves on the British affiliate's board of directors. His wife, Charlotte, who flew over to join him, reported that Don had already visited a pulp mill in Holland.

#### COLUMN FROM CANADA

Carriveau Now Asst. to Mgr.; D. O. White Goes to "Soo"

W. R. ROBINSON has been appointed safety and personnel supervisor for Dryden Paper Co. woods manager. Bill Robinson is a past president of the Dryden curling club.... JOHN H. ADAMSON, technical sales director of Harland Drives Ltd., has arrived in Canada from the United Kingdom to join Bepco Canada Ltd., Montreal, to spend six months meeting paper mill executives,

Continued on page

## DECULATOR PROVIDES BETTER DRAINAGE

Increases production and sheet strength of insulating and hardboard

And in addition the use of the Deculator has produced these benefits —

- increased strength, less weight, lower shipping costs
- oreduction of headbox consistency
- oreduction of additives for strength
- o increased smoothness
- of fewer burnt spots
- d eliminates wet crushing
- dess fuel for drying
- of more "square" sheet strength



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BRONXVILLE 8, NEW YORK

Announcing...
the new,
exclusive

GRINNELL-SAUNDERS

**STRAIGHTWAY** 



VALVE

... the diaphragm valve with STRAIGHT-THROUGH FLOW, for handling viscous materials, fibrous slurries, sludges, pulp stock, latex, magmas, semi-fluid foods, solids in suspension, sewage, water, corrosive chemicals



Diaphragm lifts high for streamline flow in either direction. No packets to trap sludge



Diaphragm presses tight for positive closure even when handling gritty or fibrous materials

Grinnell-Saunders STRAIGHTWAY Diaphragm Valve\* offers you these exclusive features: the ability to handle viscous materials without restriction or stoppage; minimum pressure drop; rodding or brushing without need of removing bonnet and without possibility of damaging body linings; self-draining when line is pitched sufficiently to drain piping.

Grinnell-Saunders STRAIGHTWAY Diaphragm Valves are available in a range of body, lining and diaphragm materials. Inquiries invited. Bulletin on request.

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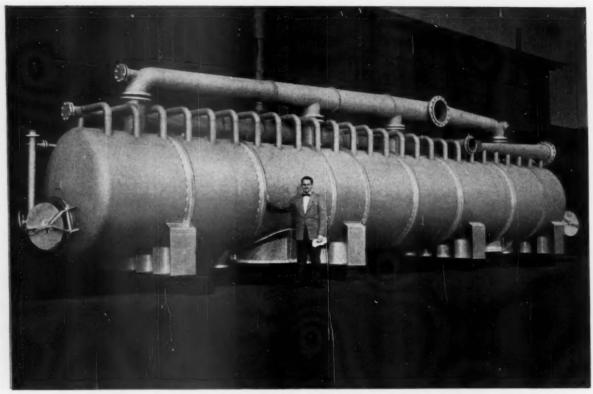
Grinnell Company, Inc., Providence, Rhode Island

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pipe and tube fittings \* welding fittings \* engineered pipe hangers and supports \* Thermolier unit heaters \* valves

Grinnell-Saunders diaphragm valves \* pipe \* prefabricated piping \* plumbing and heating specialties \* water works supplies

industrial supplies \* Grinnell automatic sprinkler fire protection systems \* Amco air conditioning systems



Receiver of type 304 Crucible Rezistal® stainless steel fabricated by O. G. Kelley and Company for the Rotareaed Corporation.

## why it cost less to use stainless

This vessel improves the quality of paper stock. It is the receiver unit in the "Deculator" process, which removes all gasses from the wet stock in paper-making operations.

These receivers used to be made of carbon steel, lined with a phenolic resin. But the designers, The Rotareaed Corporation, wanted a material that could better withstand the highly corrosive nature of some paper stocks and the erosion that normally takes place within the receiver.

Then Crucible stainless steel, type 304, was tried. In the long run it proved to be less expensive. For stainless *fights* corrosion. Because it is almost impervious to oxidizing acids, it

resists attack by corrosive paper stocks.

What's more, the erosion that used to be so costly in previous receivers has an insignificant effect on stainless. With its tough, abrasion-resisting surface, stainless often outlasts other metals scores of times in erosive or abrasive environments.

As a leading stainless steel producer, Crucible has much application and fabrication data to offer you. You'll find a great deal of this type of information in "Making the most of Stainless Steels in the Chemical Processing Industry." Write for your free copy. Crucible Steel Company of America, The Oliver Building, Mellon Square, Pittsburgh 22, Pa.



first name in special purpose steels

Crucible Steel Company of America

If you make papers where appearance counts—wallpaper, publication stock, wrappers, cartons—TITANOX white titanium dioxide pigments are for you.

To reduce show-through, the use of TITANOX is imperative.

To afford contrast—TITANOX. To increase visibility and legibility—
again TITANOX. No matter what its purpose, paper pigmented with
TITANOX is better-looking paper. Titanium Pigment Corporation,
111 Broadway, New York 6, N. Y.; Atlanta 5; Boston 6; Chicago 3;
Cleveland 15; Houston 2; Los Angeles 22; Philadelphia 3; Pittsburgh 12;
Portland 14, Ore.; San Francisco 7. In Canada: Canadian Titanium
Pigments Limited, Montreal 2; Toronto 1.

look...



#### PULP & Paper

#### STRICTLY PERSONAL

#### MORE COMMENT FROM CANADA

engineers and consultants in Canada and the U.S. . . . E. J. CARRIVEAU has been named assistant to the resident manager of Ontario-Minnesota Pulp & Paper Co. mill at Fort Frances, Ont., according to F. G. WILLIAMS, resident manager. He was formerly general superintendent of pulp and paper manufacture. A. M. McKELVIE formerly assistant to the general superintendent, succeeds Mr. Carriveau. . . . . CLIFFORD CRISPIN, vice president, pulp division, MacMillan & Bloedel, is new chairman of the executive committee, Canadian Pulp & Paper Association, western division, succeeding M. J. FOLEY, president of Powell River Co. Other members of the committee are: W. E. BREITENBACH, executive vice president, Alaska Pine & Cellulose; L. L. G. BENTLEY, vice president, Canadian Forest Products; WENT-WORTH BROWN, vice president, Columbia Cellulose Co.; FRANK N. YOUNGMAN, chairman, Crown Zellerbach Canada; J. A. YOUNG, vice president, Elk Falls Co.; B. M. HOFFMEIS-TER, president, MacMillan & Bloedel; HAROLD S. FOLEY, chairman, Powell River; J. A. CRAIG, vice president, Sidney Roofing & Paper, and E. M. HERB, president, Westminster Paper Co. . . . VERNON E. JOHNSON, president of New Brunswick International Paper Co., has been named representative of the provincial government to the senate of University of New Brunswick . . . . D. O. WHITE, formerly control superintendent at Manitoba Paper Co., has been transferred to Abitibi's Sault Ste. Marie mill in the same capacity, and CHARLES E. METHERELL has succeeded him at Pine Falls . . . . R. O. FOWLER has been named assistant electrical superintendent at Mersey Paper Co., where C. C. CAMERON retired as groundwood superintendent . . . . RONALD W. EVANS. formerly assistant chief engineer, Spruce Falls Power & Paper Co., Kapuskasing, Ont., has gone to Neenah, Wis., with Kimberly-Clark Corp. . . . LUCIEN ROLLAND, president of Rolland Paper Co., Montreal, has been acting as chairman of the building fund for Jean de Breboeuf College. He is alumni presi-

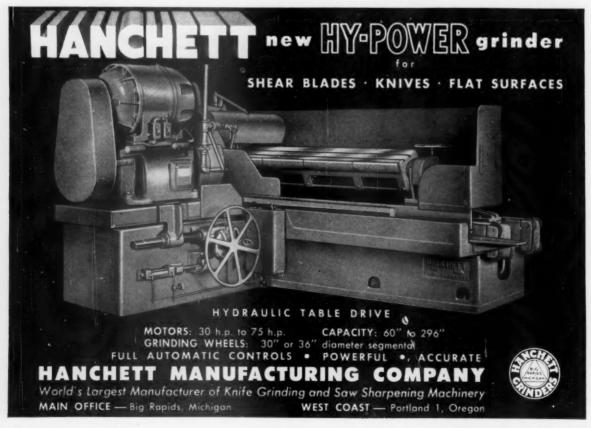
C. LAVISTE and L. CORRIVEAU, tech-

nical assistant and director of industrial relations respectively, at Donohue Brothers, Clarmont, Que., have both left that company to assume similar duties with Richmond Pulp and Paper of Canada, Bromptonville, Que.

BERT LAJOIE has been made Canadian sales representative, paper div., Curlator Corp., East Rochester, N. Y., according to J. W. INGLE, president. He will work out of the East Rochester office.

#### NOTES FROM AUSTRALIA

A. R. SLOMAN, research manager of Australian Pulp & Paper Mills, Ltd. and vice president of the Pulp and Paper Institute of Australia, accompanied by C. H. TURNER of the same company's research team, have returned after visiting mills in Canada and U.S. .... N. A. WHIFFEN is new production superintendent at Burnie mill, APPM Ltd. . . . . K. McKERCHER, senior chemist, is supervising the technical laboratory . . D. H. A. ALEXANDER and J. W. THORPE of Australian Paper Mills attended an advanced management school in Honolulu and flew to the West Coast for a vacation and mill visit . . . . W. J. FLINTOFT, of the engineering division APM, attended Oxford University as a Rhodes scholar, and since then has been touring Scandinavia and North America.





rolls.

Scientifically heat-treated to just the right combination of hardness and toughness... precision ground to perfect roundness and close hole tolerances to fit standard holders... Simonds Forged Slitters give you the *smoothest*, *most dependable* cutting at lowest cost. Ask your Simonds Industrial Supply Distributor about "Red Streak" Forged Slitters with the longer lasting cutting edge.

out or chip when operating against hardened steel

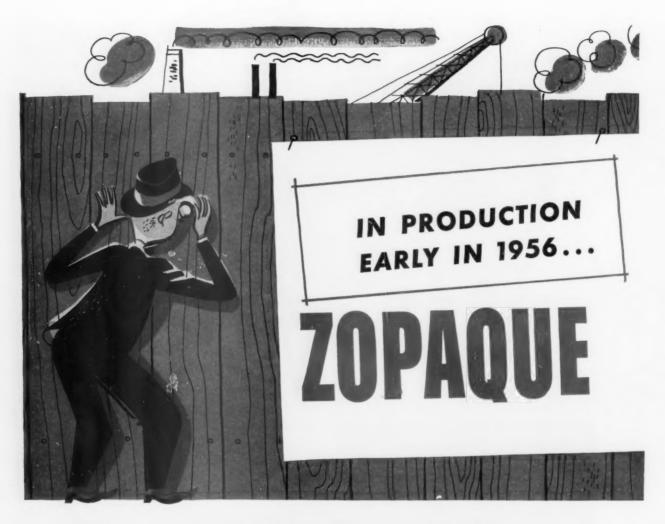




Call your SIMONDS Industrial Supply DISTRIBUTOR

## 'Red Streak" SLITTERS

Factory Branches in Beston, Chicago, San Francisco and Portland, Oregon, Canadian Factory in Montreal, Que., Simonds Divisions.



## First of 3 Big Expansions

## TO GIVE YOU BETTER SERVICE WITH NEW ZOPAQUE, THE FINEST TITANIUM DIOXIDE

Glidden research has achieved greater whiteness and a highly accelerated dispersion rate in the new ZOPAQUE. These developments combine to produce pigments with exceptional hiding power, outstanding gloss and color retention, and low reactivity. Early in 1956, Glidden will open its new plant and double its production of ZOPAQUE. With this added production, Glidden will be in a better position than ever to serve your titanium dioxide needs.

Glidden ZOPAQUE Titanium Dioxide is available in both Rutile and Anatase grades. Rutile is recommended for the new types of paper coatings and Anatase is suitable for both coating and beater additions.

Write today for more details on Glidden ZOPAQUE, the finest titanium dioxide.



# NEW GLIDDEN TITANIUM PLANT

## Each Batch of Titanium Ore is Tested in Pilot Plant Before it is Processed!

You are looking at a giant titanium plant in miniature, as set up in the Glidden Laboratories in Baltimore. In this small-scale plant, jet-black titanium ore is transformed into gleaming white pigment through a hydrolysis process. This test provides an accurate check on every shipment of ore received by Glidden. It is part of the Glidden continuous quality control program to provide you with the finest ZOPAQUE Titanium Dioxide at all times.



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# PUWELL RIVER UNGLEAGHED SULFHIE PULF

\*STRENGTH

\*COLOR

\*CLEANLINESS

\*SERVICE

\*DEPENDABLE SUPPLY

\* POWELL RIVER SALES COMPANY LIMITED
904 STANDARD BUILDING VANCOUVER, B. C.



## Mount Hope Expander Roll IN CALENDERING

eliminates creases . . . holds full width prevents waste

East Walpole Plant Instal!ation, courtesy of Hollingsworth & Vose. 114" face Expander (upper left) in operation since March 1948. 115" face Expander (lower right) used when running very light sheets.



This Expander installation is one of the many applications of the cost saving Mount Hope System in the paper mill. This unit automatically prevents costly wrinkles and creases — insures smooth unmarked finish on even lightest paper.

Ask for Bulletin EPP or a Mount Hope Engineer will gladly advise you.

ORIGINATOR of MODERN EXPANDERS— LEADER in CLOTH HANDLING EQUIPMENT SOUTHERN REPAIR SHOP—CHARLOTTE, N.C.



## FACT:

Every glassine mill but one (now built or being built) has selected Beating Units for its best grades



JUST OFF THE PRESS

— Write today for your copy of this new Bulletin giving details about the Beating Unit. Ask for Bulletin No. EDJ-1079.



#### BECAUSE ...

the Jones Beating Unit has proved, in mill after mill, that it will produce greater uniformity, better transparency, better all 'round characteristics — at lower power cost.

A leading glassine mill\* writes:

"Our experience . . . has convinced us that they are capable of producing high grades of glassine...which cannot be duplicated by any other equipment."

Glassine, of course, is only one of many papers on which the Beating Unit has produced such results. Ask your Jones representative how it can serve your needs.



Basic steps in the production of quality knives as photographed in Heppenstall's Pittsburgh works, (right) pouring a heat of electric induction steel from one of the melting furnaces and (below) forging a large alloy steel ingot on an 1800-ton hydraulic press.





QUALITY COSTS NO MORE...

When you use rugged
HEPPENSTALL Chipper
Knives to increase
pulp production

Over the years, Heppenstall quality has been achieved by painstaking research and development programs. Our durable, long-lasting, chipper knives are completely Heppenstall-built—from the patented analysis alloy steel to the final polished blade.

As the pioneer and one of the world's largest producers of alloy steel knives, we were the first to utilize high-frequency electric induction furnaces for the production of carbon and alloy forging steels.

Leading pulp producers using Heppenstall Chipper

Knives are today securing such important production advantages as:

- · More cuts per knife grind
- · Fewer oversized chips
- · Decreased down time
- · Lower over-all blade cost

These knives are scientifically hardened to hold a keen edge, yet possess the proper ductility to resist breakage from production impact strains.

Make Heppenstall Your Standard Chipper Knife Specification





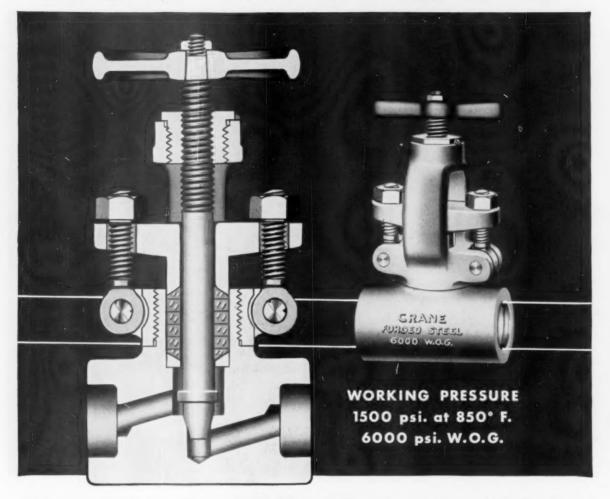
Heppenstall

The most dependable name in forgings

PITTSBURGH 1, PENNSYLVANIA

Sales offices in principal cities

## Now Available



#### **New Crane Forged Steel Instrument Valves**

Been looking for an exceptionally rugged, compact, and low-priced stop valve for your small hydraulic or high-pressure, high-temperature instrument lines?

Crane has developed it—sizes ¼", ¾" and ½", in both screwed and socket-welded patterns. It's the allnew Crane Forged Steel Instrument Valve, and you can specify it now for immediate delivery.

#### Will Handle Many Services

Note closely the over-all design and construction shown above of this new Crane valve. Oversized stuffing box—heavy-duty Crane Exelloy stem with integral disc—bolted gland—swinging gland eye bolts—outside screw and yoke construction—all add up to the high performance and low maintenance you want in a valve for your instrument panels, orifice meters, bypass and gauge lines, regulator leads, and other hydraulic and high pressure temperature lines.

#### Literature on Request

These rugged, low-cost stop valves are built for 1500 psi. at 850° and 6000 psi. W.O.G. Construction and materials are job-engineered by Crane experts—backed by a century of quality manufacturing, matchless experience. You'll want complete information on the allnew Crane Forged Steel Instrument Valves.

For literature contact your local Crane Representative, or write to address below.

## CRANE VALVES & FITTINGS

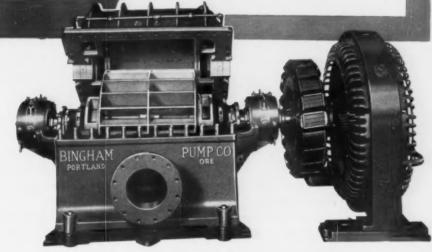
PIPE . KITCHENS . PLUMBING . HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

### Bingham SPLIT CASE

makes the BIG difference in Vacuum Pumps

- Quiet operation—
   no drumming
- Only one moving part
- No contact between inner working parts
- Less floor space required



### easily accessible, low maintenance, no drumming

Bingham Vacuum Pumps offer operating advantages that are possible *only* with the horizontally split case, an exclusive Bingham feature.

The horizontally split case, permitting removal of top half, makes it easy to inspect or remove rotating element as a unit, in minimum floor space, and without disturbing suction and discharge piping connections.

Write your nearest Bingham office for further information, or give details of your operation. Bingham engineers will be glad to make recommendations with no obligation on your part.



One of several Bingham split case, double suction, vacuum pumps in Weyerhaeuser's pulp mill, Everett, Washington.



BINGHAM PUMP COMPANY

General Offices: 2800 N.W. Front Avenue, Portland 10, Oregon Factories: Portland, Ore. • Vancouver, B.C., Canada



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### Coming to Western Canada...

### The first domestic source of chlorine and caustic soda

The goal is set for early 1957. For the first time you in British Columbia will have a local source of chlorine and caustic soda.

A new \$11,000,000 Hooker plant will begin making these basic chemicals through the electrolysis of brine.

It will shorten your supply lines by hundreds of miles. It will give you faster, more flexible delivery, scheduling, and technical assistance.

The new plant will be built and operated by Hooker Chemicals Ltd. This is a subsidiary of the Hooker Electrochemical Company, a basic source of chlor-alkali chemicals for fifty years.

Another Hooker plant at Tacoma, Washington has supplied you with chlorine and caustic for many years. Barge and tank car delivery of these chemicals from Tacoma will continue until inauguration of the Vancouver plant.

Hooker's caustic soda storage facilities, already operating in Vancouver, will also assure you an uninterrupted supply of caustic until the new plant begins operations.

If you would like contract information and technical data on Hooker chlorine and caustic, write to Hooker Chemicals Ltd., 717 Pender St. West, Vancouver 2, B. C.

-From the Salt of the Earth-

### HOOKER ELECTROCHEMICAL COMPANY

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considering adjustable speed drives for
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builds all basic types. There's no
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AJUSTO-SPEDE. N. to 75 horsepower. A servante soldy current clutch combined with a constant speed AC squirest cage motor provides wide, numbraced dry speed ranges, Tachaneter feedback circuit affect procise speed regulation in an unescally compact drive Many optional features genitable — generally oraling, to take control, threading speeds, inching, logging, multi-motor operation and range drives.



SELECT-A-SPEDE, 5 to 100 horsepower. New segments amplifier and adjustable voltage control provide superior speed regulation — before than required an most machines — from W. base speed or loss to full base speed. All-electric circuits — easily serviced. A. i., source, converted to U.C. by motorgenerator set) drives adjustable speed D.C. mater. Many special control features available — reversing, dynamic braking, jogging, special programming or sequenting control, extra wide speed range. All drive motor eaclosure available.

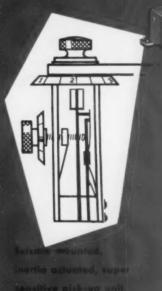


NEW! Electrophic SEECT-ALTERON, N. 12, 15 horsespenser, D.C. adjustable spaced drive manys operates from A.C. electronic power will, infinitely adjustable spaced ranges S.I., 201, 201, 10001 available, Perusably class speed resolution to 15, 20 mills and and technology these speed resolution to 15, 10000 as the dead are dynamic booking, hereas Basis, tine restore compansation. A few available modifications includes reversing, people, threading, and quiet stow-down, All motor enclosures and coaling stolers. I fees open to explosion-proof.



ONE precision balancer for all your balancing needs

WEIGHT, LENGTH AND DIAMETER CAPACITY PRACTICALLY UNLIMITED ...



Goodman Mfg. Co. Chicago, Illinois

the versatile *NEW Raydyne* 

DYNAMIC BALANCING MACHINE

the proven and accepted standard

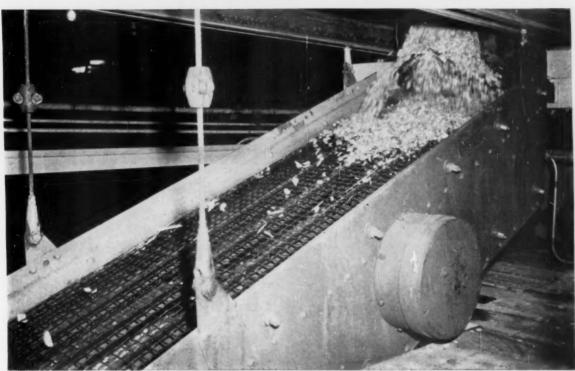
 Measures and corrects whip Versatile end or central drive Small space requirement Universal vee-type bearings

Seismic pickup locates, measures and indicates Electronic system fully enclosed in heavy steel base **©**Electronic Surface Speed Meter System available Can be either floor or imbedded rail mounted

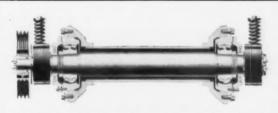
Paper mill roll models available; weight ranges 3,000, 10,000, 20,000 and up

Raydyne corporation 920 West Laurel ST. Springfield, Illinois

## Sure way to get TOP OUTPUT of accurately-sized chips



### LINK-BELT CA Vibrating Screens assure fast, efficient screening under all conditions



Two-bearing vibrating mechanism is grease-lubricated and has high capacity, taper bore, self-aligning roller bearings. Efficient, frictionless labyrinth seals exclude dirt and abrasive dust from vibrator housing. Spring-controlled centrifugal weight type counter-weight assembly eliminates excessive resonant motion in starting and stopping.



VIBRATING SCREENS

ONCENTRIC-Action Link-Belt CA Vibrating Screens will give you top-volume separation of chips from slivers and sawdust... with positive, uniform, circular motion that affords each particle maximum sizing opportunity.

This efficiency stems from the completely enclosed two-bearing vibrating mechanism with unbalanced weights that are easily adjusted to change the amplitude of vibration. In fact, all design details are directed toward fast, sure stratification, minimum maintenance and power requirements. For more facts on single, double and triple-decked CA screens, call your Link-Belt office or write for new book.

New Book 2554 contains full selection and operational data on Link-Belt CA Concentric Action Vibrating Screens. Send for a copy today.

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### Complete Service

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by our own engineering staff

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by our own construction crews

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by our own service specialists

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## LININGS and TILE TANKS

Designed and installed to meet the exact chemical and physical requirements of each installation, Stebbins linings and tile tanks are industry-famous for their efficiency and economy.

Wherever you are — whatever your corrosion-resistance problem may be — it will pay you to take advantage of Stebbins' unequalled experience and facilities.

Write for Bulletin A-153

SINCE 1884 Specialists in Design Installation and Servicing of Linings and Tile Tanks

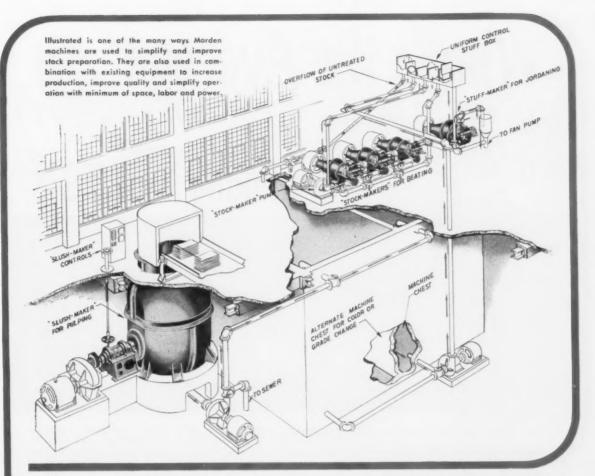
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### EN System of Stock Preparation

Morden offers three basic machines—each proven to excel in one of the three fundamentals of stock preparation-pulping, beating and jordaning. Each machine is precisely engineered, and permits full range of treatment on a continuous production line operation.

Morden's years of experience with hundreds of installations throughout the world can provide the "know-how" to assist mills in adapting existing systems or developing new systems of stock preparation to best serve individual requirements.

Ask Morden for more detailed information or assistance and how this equipment can be used advantageously in your mill.

To Mordenize...Use MORDEN SLUSH-MAKER FOR PULPING MORDEN STOCK-MAKER FOR BEATING MORDEN STUFF-MAKER FOR JORDANING

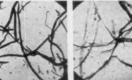
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PULPING Separating one fiber from the other in preparation for treatment.



Brushing or fibrillating, with emphasis on retention of fiber length for strength



JORDANING cutting for formation and final control (if required).

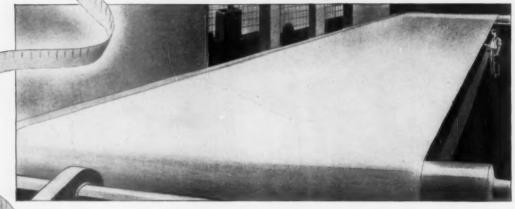


Other Representatives in Most Paper-making Countries

## What's the Average



in making FELTS?



A bottom felt, 224 inches wide, on the new 320-inch king-size dryer at the Starkville Mill. When finished, this TENAX FELT will weigh nearly 1,000 lbs.



The smallest TENAX FELT . . . a baby 13-pounder for a specialty mill . . . is weighed in preparation for shipment to its destination.

Actually, there's no such thing as an average TENAX FELT... either in size or specifications. Each felt is designed, woven and finished to rigidly pre-engineered, pre-calculated specifications. Each is created for its own special job on a certain papermaking machine.

An average day at the Newfane or Starkville Plants might bring orders for felts ranging from a tiny 13-pounder to a giant felt weighing nearly half a ton, capable of clothing the largest paper machine in service today. Lockport takes them all in stride.



Serving the Paper Makers Since 1891

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## Pennsalt Western Plants Provide Economy and Fast Service to Western Pulp and Paper Industries



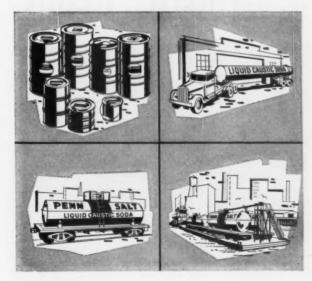
Pennsalt Plant at Tacoma, Washington



Pennsalt Plant at Portland, Oregon

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Many distinct services and economies are available to Northwest users of PENNSALT chemicals. PENNSALT'S Northwest plants provide fast and dependable service... transportation costs are less and inventories are smaller. These advantages mean fewer problems and save money. Then, too, PENNSALT quality controlled chemicals insure uniform, dependable products, and its Technical Service Department is always available for assistance on uses or application of chemicals required for pulp refining.



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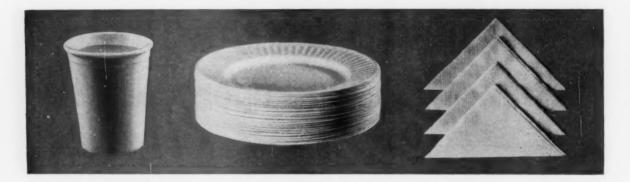
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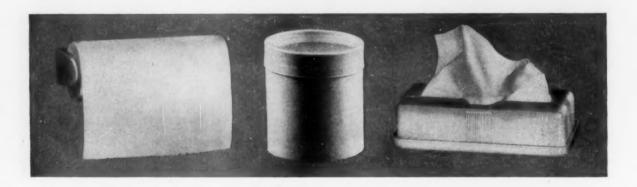
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Tacoma, Washington

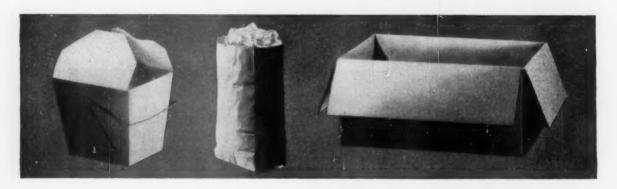
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PP56-1



Key to higher speeds in paper making

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- for . HIGHER PRODUCTION
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Today's higher production speeds are a severe test of the operating characteristics of a rubber covered roll. At these high speeds, a roll which is not in dynamic balance can result in the whipping action which causes uneven weight and moisture distribution in the stock . . . to say nothing of the damage to roll coverings or the excessive wear on journals and bearings.

Foreseeing the problem, Stowe-Woodward some time ago initiated the practice of testing certain critical rolls for dynamic balance (at operating speeds) as well as for static balance (at rest). Your Stowe-Woodward representative will be glad to explain this feature of Stowe-Woodward rubber covered rolls and make its benefits available to you.

"RUBBER ROLLS with a REPUTATION"



STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN . NEWTON 64, MASS. . GRIFFIN, GEORGIA

## Fast...Accurate...Inch-by-Inch Weight Record Across the Sheet



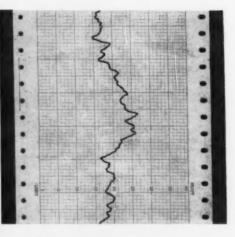
A single unit can serve 6 or more machines. Can be located anywhere. Strip torn from the reel is fed through measuring slot automatically. Charts serve as instant guide to slice adjustment and, after adjustment, as permanent proof of sheet weight uniformity.

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West Virginia Pulp & Paper Co. (2 mills)

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Simpson Paper Co.
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Co. (2 mills)



## with new FOXBORO SHEET WEIGHT PROFILER

This new Foxboro development gives a true profile of weight variations straight across the sheet — no confusion with variables in the machine direction. Its wide open chart record (each inch represents 10" of paper) makes it easy to identify and correct faulty slice adjustments.

Mill after mill is realizing major gains in paper quality through the use of the Foxboro Sheet Weight Profiler... a basic production tool which has never before been available. Send today for new literature: Bulletin PD-105-2 describes the Sheet Weight Profiler; Bulletin PD-108 describes Foxboro measurement and control of the entirely independent basis weight variable in the machine direction,

THE FOXBORO COMPANY, 992 NEPONSET AVENUE, FOXBORO, MASSACHUSETTS, U.S.A.

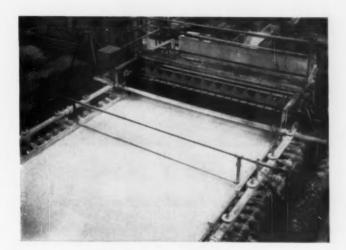


BETA-RAY SHEET WEIGHT PROFILER

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND



## High-speed flocculating agent improves filler retention, clarification of process mill water and white liquor



PURMEL
PIPE NIPPLE

AIR HOLES

DISPERSER

VALVE

PIPE LINE
STRAINER

AIR

ORUM

ORUM

SPARGER

Separan 2610, the <u>new</u> flocculating agent, proves to be a better answer to many problems in the pulp and paper industry.

Nearly overnight Separan\* 2610 has become important to many operations in the manufacture of pulp and paper.

### Let's Be Specific!

Separan 2610 has all the keys to a product's success. It's effective in both acid and alkaline media. It requires no preservative. Interested? There's more. This synthetic organic polymer is noncorrosive and presents no hazard in normal handling and industrial usage. It's easy to prepare and easy to apply.

#### Better, Faster, Less Cost

For example, one mill applied Separan 2610 to the paper machine headbox and realized a considerable reduction in the amount of titanium dioxide required in the furnish.

In another application, a Kraft pulp mill was able to improve overflow clarity and greatly reduce retention time in white liquor clarifiers. Another process of major importance to the

paper industry is the clarification of process mill water. Again, Separan 2610 has proved an excellent floc aid.

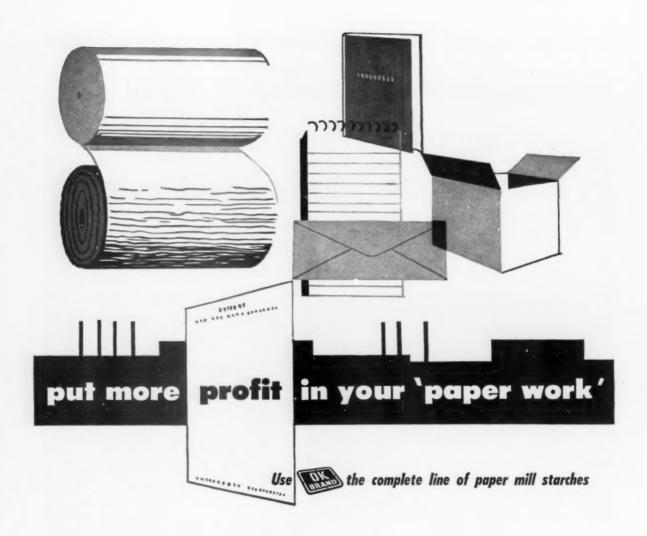
You'll want a sample and more information on Separan 2610. Write on your company letterhead to the dow Chemical Company, Dept. TS-935G, Midland, Michigan.

\*Trademark of The Dow Chemical Company

New Disperser has been developed by The Dow Chemical Company to permit rapid dissolving of larger amounts of Separan 2610 without use of a mechanical mixer.

you can depend on DOW CHEMICALS





The superior quality of OK BRAND starches gives you improved tub, beater, and calender sizing. Better for coating and adhesives, too. When you make better paper at no extra cost—you've put more profit in your "paper work". Try OK BRAND and see! Discuss your special starch requirements with Hubinger's expert technicians.

### the stamp of quality

ESTABLISHED IN 1881

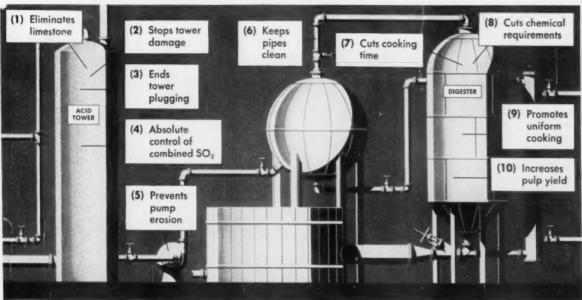
### THE HUBINGER COMPANY KEOKUK, IOWA

New York • Chicago • Los Angeles • Boston • Charlotte



### Try these top-quality starches for paper makers:

- OK BRAND Pearl
- OK BRAND E-Type Pearl
- OK BRAND Pearl 700
- OK BRAND Pre-Jel
- OK BRAND Thin Boiling Starch
- OK BRAND Oxidized Starches



Here's how Spencer Anhydrous Ammonia saves time, cuts costs and increases yields. Read how this quicker, cleaner, better method of pulping can benefit your mill:

### 10 Ways Ammonium Bisulphite Pulping Can Help Increase Your Pulp Mill Profits:

It is generally agreed that ammonium bisulphite pulping offers many advantages. Ten of these advantages are shown above. Now, let's look at what some of these advantages can mean to you:

In the first place, Spencer Anhydrous Ammonia ends the need for stone handling. This reduces labor costs and, at the same time, stops damage formerly caused by dumping stone into the acid tower.

Pipes are cleaned, not clogged, by ammonium bisulphite acid. With ammonia base, absolute control of combined SO<sub>2</sub> is accomplished by the mere twist of a valve.

Ammonia cooking liquor penetrates more rapidly, allowing shorter cooking cycles, lower temperatures and more uniform operation. Pulp yield per cord of wood is increased, and chemical requirements are decreased. Also, ammonium bisulphite is adaptable to the pulping of hardwoods.

Why not set up a test run, and prove in your own plant the benefits of this pulping process? Our Technical Service Staff will be glad to provide you with technical assistance. Just write: Technical Service Section, Spencer Chemical Company, Dwight Building, Kansas City 5, Missouri.



AMERICA'S GROWING NAME IN CHEMICALS

## HIGHTOUCH

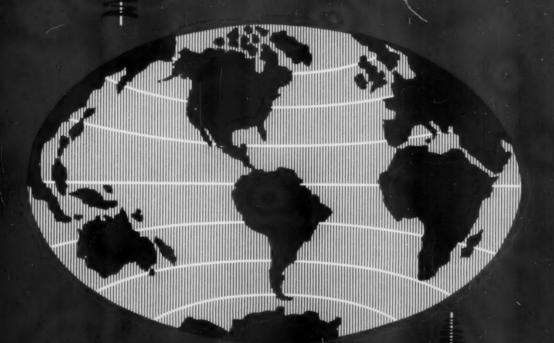
## CLEAN ROLLS

LODDING K-4 Blade Holder gives added blade flexibility . . . . free riding . . . . hugs roll from end to end . . . . never a blade changing problem.

## LODDING DOCTOR

LODDING ENGINEERING CORPORATION . Worcester, Mass.

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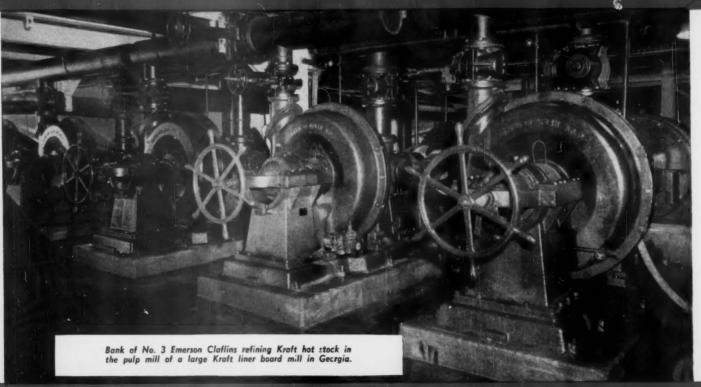
**BULKLEY-DUNTON** 

OXGANIZATION

195 MILDISON AVENUE, NEW YORK 17 N Y

## HOW

paper mills reap new, improved



High volume work horse
Extreme hydration
Marked quality improvement
High tensile strength
Replaces beater
Fewer screen rejects
No Loaming

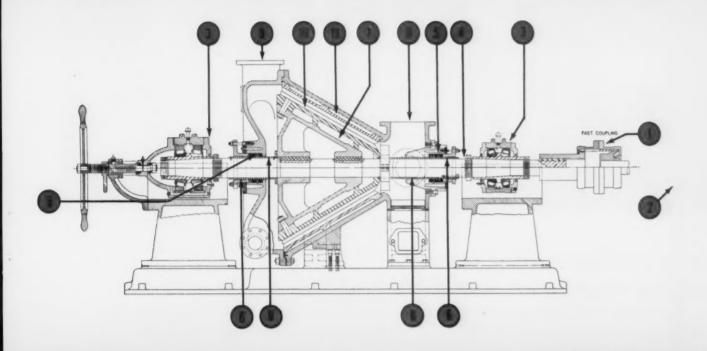




## a bonus with the Emerson



CONTINUOUS BEATER AND REFINER



WHEREVER pulp and paper are made papermakers are impressed by the extreme versatility of Emerson Clatins for all pre-refining and beating operations, including hot stock refining. Featuring auxiliary plugs and removable plug liners and shell liners, fillings can be changed quickly or interchanged from the fabricated type, to cast steel, to the hydrating type depending on your stock requirements.

CLAFLINS come in four sizes capable of processing daily, stock volume of a ton or two, on the laboratory model, to a capacity of 250 tons or more on the large machine. There's a model and a filling that's best suited for the needs of every papermaker.

CLAFLINS are economical too. - to buy, to install and to operate.

IT WILL PAY YOU to learn more about these versatile and economical continuous beating and refining units. Ask your Bolton-Emerson representative to give you the full story on his next call, or write today for your copy of Classian Bulletin No. C 7555.

### ENGINEERED FOR EFFICIENCY

- 1 Fast's telescopic con-
- 2 Muter drive
- 3 searings water cooled, anti-friction seller, tapered sleeve mounting, oil lubricated with thrust adjustment, heavy duty
- 4 Jaged steel shaft
- 5 becas, leature rings for het steck refining
- 6 Brainless steel or broken packing box

- 7 Fing assembly-nextilary plug with quich change sleeve
- 8 Standard inlets e special for het steel roffning
- 9 sharge outlets or streamlined for hot stock refining
- Fahricated or cast steel plug fillings with lave plug for es-
- 11 Jahricated, cast steel

EMERSON

THE EMERSON MANUFACTURING COMPANY

Division John W. BOLYON & Sons Inc

Lawrence, Massachusetts, U.S.A.

Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, P.O.



### One-minute color change

### adds as much as an hour to this mill's productive day

What could one-minute color control do for you?

For The J. P. Lewis Co., Beaver Falls, N. Y., it means 80% less wet broke on the machine-plus a clear dividend of 40 to 60 minutes' productive machine time per day.

At this mill, groundwood stock of 4% consistency flows into 6,000-gallon beater chests where LIGHTNIN Mixers turn it over rapidly, keeping it uniform.

In just one minute, the LIGHTNINS disperse color additions evenly throughout the stock.

Final color adjustment takes place at the machine chests, also equipped with LIGHTNIN Mixers. Again, the LIGHTNINS

bring 6,000 gallons of stock to full uniformity-in one minute.

#### No more rethreading

Results: The off-color sheet, previously stripped off the machine as wet broke, has been reduced by four-fifths. The small amount of off-color sheet now produced runs through to the rewind rolls, where it is removed as dry broke. It is no longer necessary to rethread the drying rolls and calendar stack when color is changed. J. P. Lewis gets up to an hour more production per day off the machine.

The LIGHTNINS require only routine lubrication. And chests are easy to cleanhave no baffles to cause clogging and rotting; can be hosed down to pump suction without losing a minute's production.

### How to get results

Want to get more out of your chests? Put LIGHTNIN Mixers into them. We can equate what you want done, with the horsepower it takes to do it. You get the exact power-speed combination that matches your needs.

LIGHTNINS are giving good results on stock consistencies up to 6%, in chests as large as 285,000 gallons. Results are guaranteed, unconditionally.

For quick, competent help, call your LIGHTNIN Mixer representative. Or write us today.

FAST-FLOWING STOCK tumbles and rotates uni-formly, driven by LIGHTNIN four-blade propeller; does not vortex, even in unbaffled chest.

### Lightnin Mixers.

MIXCO fluid mixing specialists

FOR LATEST MIXING INFORMATION	and full	description	of LIGHTNIN	Mixers,	send
for these helpful bulletins:					

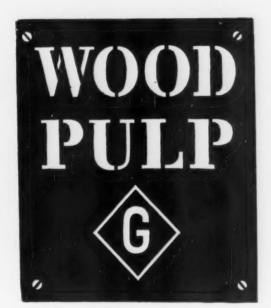
- ☐ B-102 Top or bottom entering; turbine, paddle, and propeller types: 1 to 500 HP
- B-103 Top entering; propel-ler types: 1/4 to 3 HP
- 8-108 Portable: 1/8 to 3 HP
- 25 HP
- B-112 Laboratory and smallbatch production types
- ☐ 8-109 Condensed catalog showing all types
- ☐ B-104 Side entering: 1 to ☐ B-111 Quick-change rotary mechanical seals for pres-sure and vacuum mixing
  - ☐ B-107 Data sheet for figuring mixer requirements

Check, clip, and mail with your name, title, company address to:

MIXING EQUIPMENT Co., Inc. 141-b Mt. Read Blvd., Rochester 11, N. Y. In Canada: Greey Mixing Equipment, Ltd., Toronto 10, Ont.



### Established 1886



"Trifles make perfection, and perfection is no trifle." MICHELANGELO

In industry, as in art, imagination comes first—followed by painstaking attention to detail. That's why the Pulp and Paper Industry gives so much of its time and energy to the determined search for new and better ways of serving the world with paper products.

### **GOTTESMAN & COMPANY**

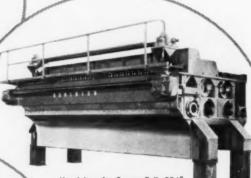
-INCORPORATED-

100 PARK AVENUE • NEW YORK 17, N. Y. EUROPEAN OFFICES: Birger Jarlsgatan 8, Stockholm, Sweden

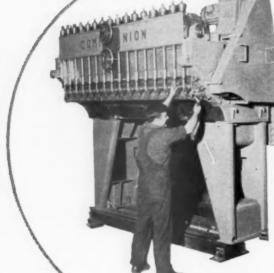
### "DOMINION"

contributes to progressive improvements in Canadian paper making machinery





Head box for Spruce Falls 234" newsprint machine. Present operating speed: 1550 F.P.M. Increase to 2,000 F.P.M. planned.



A head box for Howard Smith Paper Mills Crabtree Mill 96" Yankee Tissue Machine, designed for 2,000 F.P.M.



Three of the many new pressure type head boxes built and being built by Dominion Engineering—ensure controlled, uniform flow for paper machines regardless of stock, width or speed...

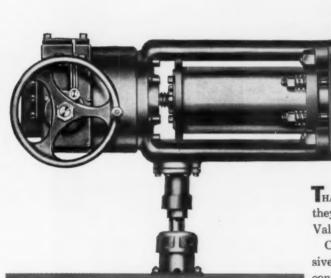
For fully detailed information, write to —

DOMINION ENGINEERING

MONTREAL TORONTO WINNIPEG VANCOUVER



## SAVINGS in operation and maintenance first year were more than cost of four Yarway Digester Blow Valves"



THAT was the experience of a large Florida mill after they installed YARWAY Seatless Motor Operated Blow Valves on their digesters.

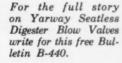
Clean, fast blows eliminated production delays. Expensive liquor loss from leaking valves ended. Remote control of motor operation reduced operating costs.

Continued satisfaction has resulted in installation of additional YARWAY Digester Valves for expanded plant facilities.

Such records are not unusual and new features like the Yarway 17/4 PH stainless steel plunger and automatic lubricator, combined with improved operating control, make Yarway Seatless Digester Blow Valves an even better buy today.

You may choose between hydraulic-cylinder or electric motor operated valves, all remotely controlled.

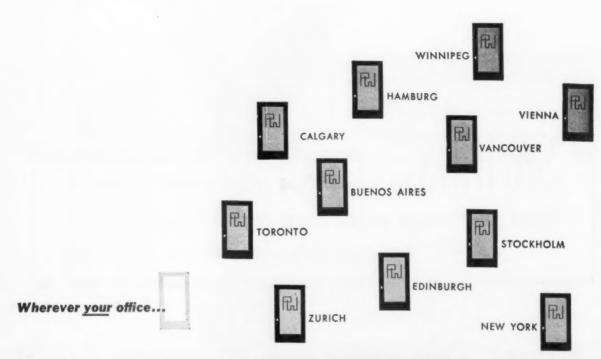
YARNALL-WARING COMPANY 103 Mermaid Avenue, Philadelphia 18, Pa. BRANCH OFFICES IN PRINCIPAL CITIES



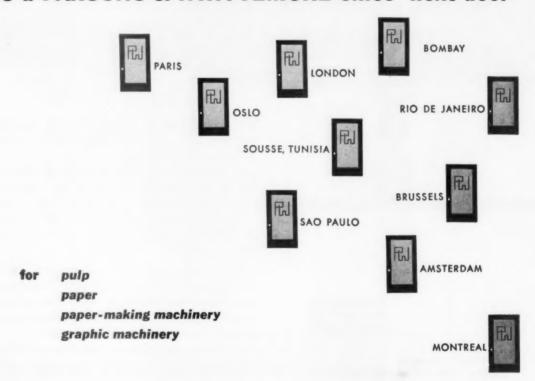




digester blow valves



### there's a PARSONS & WHITTEMORE office "next door"



Send for our booklet entitled:



LYDDON & CO., 35 New Bridge St., London EC4, England
PARSONS & WHITTEMORE, 250 Park Avenue, New York 17, New York



### **WE'RE MAKING HYDROGEN PEROXIDE**

The news that Solvay is producing hydrogen peroxide in a new plant at Syracuse, N. Y. is of three-fold importance to users of this product.

- 1. It provides a new dependable source of supply for material of top quality—Solvay quality.
- 2. It means that hydrogen peroxide can be purchased in mixed carload or mixed truckload lots with other SOLVAY products.
- 3. It makes available, without obligation, Solvay's specialized, industry-wise Technical Service.

Hydrogen peroxide, in addition to its many, well-known bleaching applications in industry, is important in such newer uses as in the manufacture of organic chemicals through epoxidation and hydroxylation reactions.

Put Solvay Hydrogen Peroxide to work in your products or processes. Now available in both 35% and 50% grades, you can get it in both drums and tank cars—shipped in carloads or truckloads, straight or mixed, as well as l.c.l. Write for further details on prices, general information and technical data.

Soda Ash • Snowflake® Crystals • Chlorine
Potassium Carbonate • Calcium Chloride
Sodium Bicarbonate • Ammonium Chloride
Ammonium Chloride
Sodium Nitrite • Caustic Potash • Chloroform
Sodium Nitrite • Caustic Soda • Methyl Chloride
Cleaning Compounds • Methylene Chloride • Monochlorobenzene
Para-dichlorobenzene • Ortho-dichlorobenzene • Hydrogen Peroxide

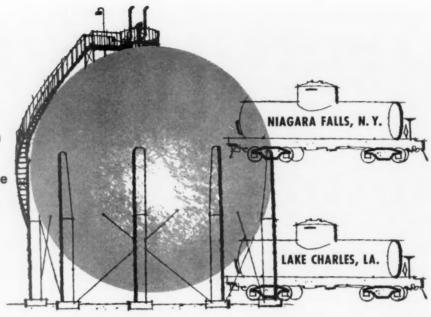
### SOLVAY PROCESS DIVISION

ALLIED CHEMICAL & DYE CORPORATION

llied 61 Broadway, New York 6, N. Y.

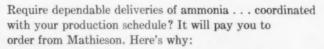
BRANCH SALES OFFICES:

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multi-plant production
skilled technical service
traditional quality

## BUY AMMONIA to better advantage from MATHIESON



Five shipping points assure maximum protection against supply interruptions.

Expert technical service . . . particularly in the pulp and paper and metals processing fields . . . is always available.

Balanced output to industry and agriculture eliminates seasonal shortages.

Talk over your ammonia requirements with an Olin Mathieson representative soon. Let him show you why more people buy more chemicals to better advantage from Olin Mathieson . . . America's prime producer of basic industrial chemicals.









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INORGANIC CHEMICALS: Ammonia • Bicarbonate of Soda • Carbon Dioxide • Caustic Potash • Caustic Soda • Chlorine • Hydrazine and Derivatives

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ORGANIC CHEMICALS: Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloride • Dichloroethylether

Formaldehyde • Methanel • Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorophenol • Trichlorobenzene



Forced outages and down time are expensive in terms of both lost production and costs involved in getting recovery units back on the line. Keeping those costly, non-productive periods few and far between,—to clean and remove smelt deposits—is the job of the NOSE BAFFLE found exclusively in B&W Recovery Units.

PROBLEM—How to shield the ash deposits on the superheater from the radiant heat of the furnace, and direct the flow of high-temperature gas from the furnace so that all of the gas is cooled to the same degree before entering the superheater. The function of the Nose Baffle is to solve this problem.

RESULT—Through the use of the B&W Nose Baffle, ash deposits in zone where superheater tubes are closely spaced are soft, powdery and easily removed. The B&W Nose Baffle cuts frequent, difficult cleaning to the minimum and completely eliminates cleaning outages. Lower operating cost may be realized from lower temperatures, improved cleaning and continuous operation. The B&W Unit stays on the line longer.

And high availability is one of the many benefits of a B&W Recovery Unit. For nearly 20 years B&W Recovery Units have demonstrated economical operation and high availability in leading pulp and paper mills. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N. Y.





## Is she erasing your reputation?

A few more erasures and the girl—and her boss—will be convinced that the letterhead is no good. If it has your watermark, another customer is lost.

Mill operators find that Hercules starches used in tub sizing quality papers add great resistance to erasure. Ink feathering is diminished, too. Hercules starches provide a thin, transparent, almost colorless film. Your paper will have the pleasant feel and rattle so important to the end-user.

Technically, Hercules starches are important to you because of their uniformly high quality, ease of application and freedom from variation. You can be certain of the same size mixture over an extended period of time if you use Hercules starches. In addition, tensile strength, fold test and bursting strength are improved markedly.

Ask the man from Corn Products, he can help with product information and engineering assistance. Whatever your paper-making problem, he will be able to supply you with the technical assistance you require.

### Hercules CORN STARCH



Corn Products Refining Company
17 Battery Place, New York 4, N. Y.

Corn Products has a complete line of starches for every use in the paper industry:  $\textbf{AMIJEL} \cdot \textbf{EAGLE} \cdot \textbf{FOXHEAD} \cdot \textbf{GLOBE} \cdot \textbf{HERCULES} \cdot \textbf{GLOBE} \ \textbf{DEXTRINES} \cdot \textbf{CORAGUM} \cdot \textbf{LAM-O-DEX}$ 

Bellingham plant



Converting mills use

### PUGET PULP

in making high grade magazine and book papers

PUGET PULP is bleached sulphite—clean and clear enough for the finest product, strong enough for the hardest use.

PUGET PULP is produced in steadily expanding amount in one of the most scientifically up-to-date mills in America.

PUGET PULP is made expressly for the market. Converting mill users are assured of a steady supply from a single non-competitive source.

Gear your operations to PUGET PULP.



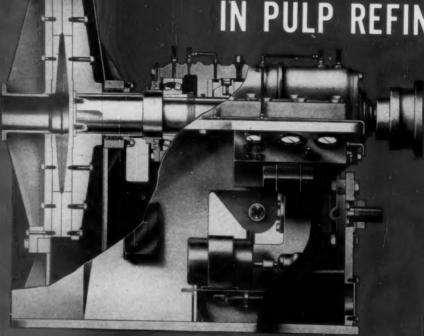
With output now exceeding 450 tons daily, more PUGET PULP is available for the market

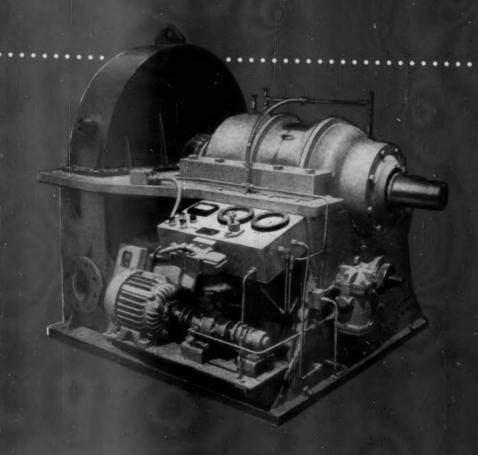
PUGET SOUND PULP AND TIMBER COMPANY

BELLINGHAM . WASHINGTON

The SUTHERLAND Balanced Flow Refiner\*

A NEW PRINCIPLE IN PULP REFINING





The Sutherland balanced flow refiner's regulates the flow of pulp between refining elements. The balanced flow principle is entirely independent of capacity or pressure.

Provious to development of the Sutherland Refiner, control of flow through continuous refiners was primarily obtained by throttling the discharge of the unit. In some instances the supply of pulp was regulated at the refiner latet. With the advent of the Sutherland Refiner in the 1930s flow control was exercised at the discharge from the disla with an additional control at the pulp inlet. In each of the above cases capacity or flow rate could also be controlled, to a lesser extent, by changing the power load—usually in conjunction with changes in one or more of the controls mentioned previously. Such a change usually altered both the capacity and the work done on the pulp. Frequently the latter was not desired.

However, in the Sutherland Balanced Flow Refiner throughput is controlled in a unique manner as a function of the coaction of the forces imposed by adjustment of the above aperational variables. This is accomplished by incorporating the new Sutherland hydraulic control system which continuously maintains the refining action in a balanced state as providing the exact force required to offset the dust loads created by the flow of pulp suspension through the unit. Consequently the refiner responds automatically to minor changes in pulp supply conditions and maintains a constant uniform refining action until the operator readjusts the controls.

Sutherland's long and successful experience in disk design has culminated in a completely new and improved disk which has shown remarkable performance characteristics in mill trials. Capacity of the new disk has been nearly double that of an older disk, on the same service. The power required has been almost haived and, despite increased capacity, disk life has materially improved.

The unique combination of a refiner designed on the balanced flow principle with disks based on a new principle of design has resulted in greatly improved refiner operation and sets new performance standards for stack preparation equipment.

#### Note These Advantages:

- 1. controlled flow at the only point where control is vital—between the disks—an exclusive with Sutherland
- 2. accurate control of capacity for quality production
- 3. quick and simple refiner adjustment

- 4. rugged construction for continuous, heavy-duty operation
- 5. compact construction and light weight
- 6. lower power consumption
- 7. efficient use of horsepower
- 8. lower initial investment cust
- 9. low installation cost
- 10. lower maintenance costs
- 11. easily remarkinable disks; disk shanges are quick and require no major disassembly
- 12. only one packing gland and it is readily accessible; no hidden packings anywhere to make for costly maintenance
- 13. all parts readily accessible
- 14. complete flexibility in installation and operation
- 15. single rotating disk minimizes uneven wear, both the power and the work are distributed uniformly over the disk
- 16. consistent stock quality is maintained by the constant pressure applied on the pulp by the hydraulic system and fluctuations in consistency or pulp quality are minimized—more uniform quality of pulp results

DESIGN PRINCIPLE: The single rotating disk operating against a single stationary disk offers the best opportunities for precision design and improvement of pulp quality and so was selected as the best means to develop the new balanced flow principle. Problems of pressure differentials and uneven wear common in multi-disk retiners are eliminated. Since multi-disk refiners do not distribute the power or work uniformly over the disk there is no way of knowing how or where power is being consumed or work done. The result is uneven disk wear usually resulting in rapid replacement, high maintenance costs, and long periods of down-time. Uneven wear can result in plugging the unit and usually prevents the reproduceability of results. By contrast, the single rotating disk, with its single adjustment, allows the operator to know exactly how much power the disk is pulling and exactly where that power is being used.

PULP QUALITY. Experience gained from the design, production, and operation of more than 600 disk refiners has made the new Sutherland balanced flow refiner the ultimate in the refining of quality paper pulp.

Patents Pending



REFINER CORPORATION TRENTON 8, NEW JERSEY



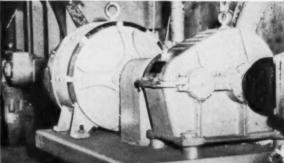








Stock blending chests showing some of the 10 Western Gear DV-56 agitator drive units.



One of 11 reliable and rugged Western Cear S-57 units driving Impeo Washers.



spike roll drum in wood room.



600 HP main pulp machine drive operating at 850 RPM through Western Gear 2:1 speed

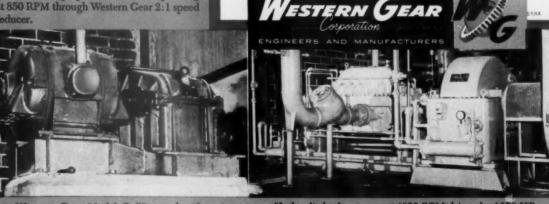
### ...from log haul drive to finishing room completely WESTERN GEARed!

Because of its remote Alaska location, Ketchikan Pulp Company's new mill demanded long life and trouble-free operation from its gear drive installations. This modern mill was specifically designed to avoid breakdown or failure which would disrupt production, so Western Gear drives, 138 in all, were specified throughout the mill. These range from the integrated 150 HP, two-speed hydraulic coupling-equipped log haul drive, reported the largest ever built, to the finishing room.

Here is convincing proof of faith in Western Gear's reputation for product reliability and ruggedness. Convincing proof, too, of confidence in special ability gained in 67 years of designing and manufacturing gear drives and machinery for the lumber and pulp and paper industries. Take advantage of this unique experience. Ask for recommendations on modernization of outmoded layouts or installation of new units. Write today, outlining your requirements. There's no obligation. Address General Offices, Western Gear Corporation, P.O. Box 182, Lynwood, California

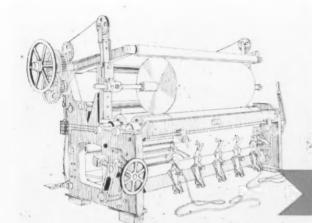
> Plants at Lynwood, Pasadena, Belmont, San Francisco (Calif.), Seattle and Houston — Representatives in principal cities

"The difference is reliability" . Since 1888



Western Gear Model D-58 speed reducer driving Impco digestor dump agitator through 11.65:1 reduction. This is one of four similar installations.

Hydraulic barker pump at 4020 RPM driven by 1250 HP 1200 RPM synchronous motor through Western Gear high speed unit. Installation allows use of slower speed motor with pump operating at optimum speed.



## A Sound Investment

FIFTY YEARS AGO ...

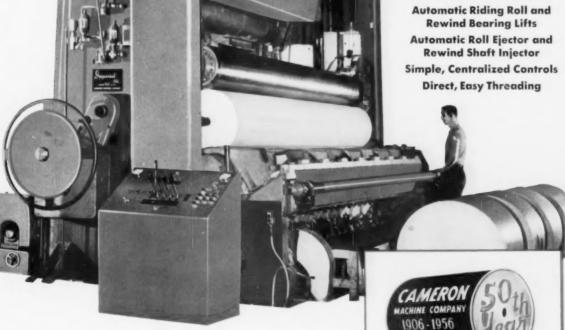
EVERY CAMACHINE ever built has been a sound investment for the user...ahead of its time in productive capacity . . . in economy and ease of operation . . . in quality of output. Now, as another sound investment the new Camachine Imperial speaks for itself...with its ability to stay well ahead of today's fastest paper machines...with its reserve capacity to meet tomorrow's increased demands.

### WHY THE IMPERIAL IS A SOUND INVESTMENT

The Imperial is custom-fitted to serve any paper machine, with advanced design features such as:

**Quick Set, Precision Slitters Automatic Riding Roll and** 

Camachine



CAMERON MACHINE COMPANY

61 POPLAR STREET . BROOKLYN 1, N. Y.



An outstanding installation at one of the country's finest pulp and paper mills!

The advanced design and quality-controlled workmanship of Goslin-Birmingham Evaporators has contributed substantially to higher efficiencies in the Black Liquor recovery systems of many of the country's leading pulp and paper mills. This new, modern installation at the recently completed Charleston, Tennessee, plant of Bowaters Southern Paper Corporation is typical.

The G-B sextuple effect long tube, film-type Evaporators for this installation are designed to evaporate approximately 200,000 lbs. per hour of water-vapor, thereby concentrating the Black Liquor from a 14% to a 55% solid.

G-B Engineers are always available to work with you on your problem ...





GOSLIN - BIRMINGHAM
MANUFACTURING CO., INC.

BIRMINGHAM . ALABAMA



**High up.** Welders install top course of a new "Inconel protected" digester at a southern kraft mill. The men are working

on the "steel side." Interior surface gets Inconel protection through Hortonclad® process of Chicago Bridge & Iron Co.



Welding progresses smoothly on the "Inconel side" of the Hortonclad steel plate. Although the Inconel layer amounts to only 10% of the thickness of the 1.14" plate, it provides all the corrosion resistance of solid Inconel—at a worthwhile saving in cost.



Now dome goes on. Two types of Incowelding electrodes, made specifically for welding Inconel and Inconel-Clad Steels, were used. The welds, incidentally, are all stress relieved in the field.

## Put brakes on accelerated corrosion in sulfate digesters...with Inconel

Are alkaline pulping liquors causing corrosion problems in your digesters?

Then follow the lead of large southern kraft mills, Use Inconet® linings.

Inconel offers excellent resistance to corrosion by sulfate liquors. It's not affected by stress corrosion cracking. And has a thermal expansion coefficient close to that of carbon steel.

Get "Inconel protection" - now!

### How to get "Inconel protection"

Efficient fabrication techniques have been developed by Chicago Bridge & Iron Co., Chicago 4, Ill. . . . A. O. Smith Corp., Milwaukee 1, Wis. . . . Lukens Steel Corp., Coatsville, Pa.

For expert help in planning a new alkaline digester, write to any of these companies.

And for further information on materials testing, selection or fabrication, consult Inco's Corrosion Engineering Section.

THE INTERNATIONAL NICKEL COMPANY, INC. 67 Wall Street New York 5, N. Y.



### Valuable booklet - FREE!

"Practical Solutions for Metal Problems" is a handy, 34-page booklet. Full of information. Has many photos of actual installations. Shows you exactly how other pulp and paper mills have solved their problems. You may find in it the solution to yours. Write for a copy—today.



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For certain types of slow stock such as: book papers, highly refined pulps for specialties, carbon papers, glassine, and light kraft, large saveall areas may be required.

The American Disc Type Saveall Manufactured by Dorr-Oliver provides the large filtering area required while requiring *much less* floor space than comparable drum type units.

Two sizes are available -9 ft. diameter with maximum of 12 discs having 1200 sq. ft. area requires only 23 ft. x 12 ft. floor space. 7 ft. diameter with maximum of 8 discs and 560 sq. ft. of area requires only  $8\frac{1}{2}$  ft. x  $15\frac{1}{2}$  ft.

Important operating advantages include — easy, quick replacement of disc sectors. Thus, by keeping a few extra sectors as spares, down-time for periodic replacement of facing wire can be eliminated. By avoiding interruption of operation, problems of change over from white water to fresh water of different temperatures on the paper machine showers is prevented.

Hundreds of American Savealls are operating dependably in leading paper mills.

If you'd like more information on American Disc Type Savealls write for Bulletin 701-R — Dorr-Oliver Incorporated, Stamford, Conn. In Canada, 26 St. Clair Ave., East Toronto 5.

Sluicing jets cut under the sheets and peel or slice them off. The fine fibers and costly fillers are then returned to the stock chest with the sheet.

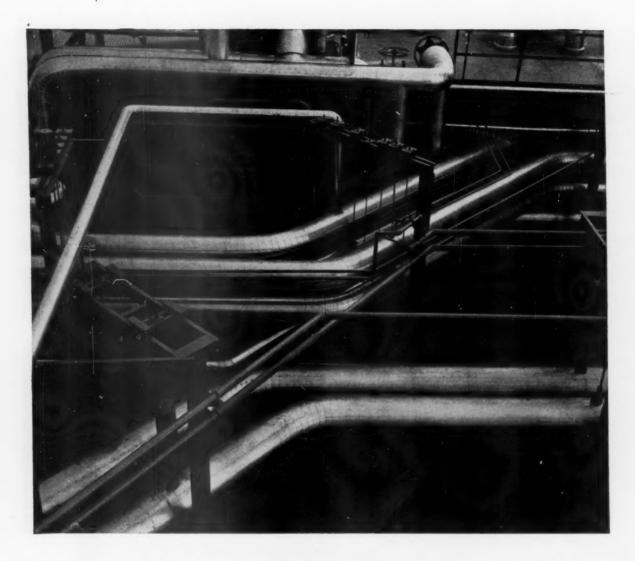






Illustrated is an American Disc Type Saveall installation at Scott Paper Company Mill in Chester, Pa. The 9 ft., 12 disc machine handles white water from their "Flying Scott", No. 7 machine. It is handling white water and sweetner as feed to the American Saveall, and the effluent filtrate contains only ½ pounds of fiber per 1000 gallons which is of a quality sufficiently high to permit it to be used as shower water.





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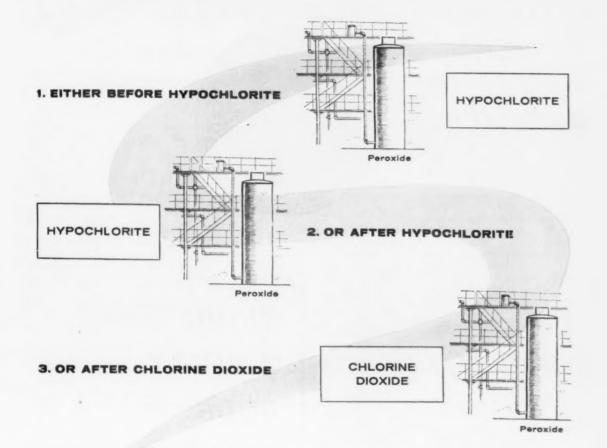
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SPECIAL ADVANCE REPORT:

# "Clouds" of Congress over Paper Week

# Can industries agree on a chemical additives law? Minimum wage law and pollution are N.Y. meeting issues.

•A United States Congress which is authoritatively reported to be almost certain to pass serious restrictions on the use of chemical additives in foodboards and other packaging paper and paperboard—that is rapidly emerging as one of the most urgent problems facing the 79th Annual Paper Week of this industry in New York, the week beginning Feb. 19.

There have been several preliminary meetings held, as leaders are pressing for agreement on some kind of a bill that would not hamstring the industry, which now stands on the threshold of the greatest packaging and food container

expansions in history.

LEGISLATION IS INEVITABLE-

Majority opinion appears to be that legislation is inevitable—leaders hope the law will not throttle technical progress by requiring licensing or pre-

testing of additives.

"No one in history has ever been made sick by chemicals used in paper manufacturing and there is absolutely no need for a law now," one executive told PULP & PAPER. "But we might as well face the music—try to get a workable law, restricted only to new additives and requiring action within 90 days, or not at all, against a paper mill."

Pulp and paper technicians, food industry and chemical industry leaders have been holding joint meetings. Unfortunately—as this issue goes to press—they seem unable to come to complete agreement on the type of bill they would prefer to have passed by Congress.

LOTS OF "CRUCIAL" PROBLEMS

-But the annual caucuses of pulpwood, pulp, paper and paperboard
men-perhaps 1,800 or more-in the
N.Y.C. hotels between 42nd and 52nd

—are going to hash over a lot of other "crucial" problems. They may not all get an airing in open meetings, but you can be sure a lot will be said about them—and maybe something will be done. For example:

THE NEW MINIMUM WAGE LAW—it threatens, in the South especially, to revolutionize wood procurement. Some predict it means mills will eventually do their own logging, employ skilled highly paid crews with lots of labor-saving equipment.

THE U. S. FOREST SERVICE TIMBER RESOURCE REVIEW—this will be condemned and praised, analyzed and given a real working over. (See PULP & PAPER's report and critical review, Dec. 1955 issue, starts

on p. 69).

NEW PULP PRICES AND PULP EXPORTS—Yes, pulp prices have gone up. Also, nonintegrated mills are watching with some concern the overseas shipments. Some pulp companies are building up what they hope will be permanent outlets abroad, but still expect to fill domestic needs.

PÉACETIME USES FOR ATOMIC ENERGY—there will be new ideas, more on this than ever before.

WATER POLLUTION AND AIR POLLUTION—these are the perennial headaches, with congressional legislation threatening in both cases. TAPPI, at long last, has a committee carrying on a continuous program of work on water problems and it will make a report. The Stream Improvement Council will have some news and new ideas.

COMMUNITY RELATIONS-factual accomplishments are going to be ap-

praised, it is announced.

MERGERS—Congress is going to do something about this, too, PULP & PAPER is advised by industry observers. The government wants information about mergers before it is printed in the papers. The Crown Zellerbach-St. Helens and the Union Bag-Hankins Container lawsuits are going to be watched closely—to see what the Federal Trade Commission decides about them.

SUPPLEMENTAL UNEMPLOY-MENT PLANS—Where is this revolutionary doctrine going to lead? Pulp, paper and paperboard mills should fortify themselves with plenty of facts, about their own employment records and all information that would pertain. PULP & PAPER published a series of articles on this issue—Dr. Alfred Kuhn's views in Aug. 1955; opposing views and "rebuttals" in Sept., Oct. and Dec. issues.

NEW FEATURE – COFFEE LOUNGE–American Paper & Pulp Assn. members will see some innova-

## Watch for PULP & PAPER-March !

A special PULP & PAPER panel—composed of top management men and labor specialists of this industry, representing leading mills in North, South and West—will comment on the unusual article we published last month: "What's Wrong With Managers?"

By virtue of their rank in the industry, this will constitute one of the most important "round

table" discussions presented in the pulp and paper field.

They will speak frankly regarding the challenge that was made by Colin Gardner III, vice president and general manager, Gardner Board & Carton Co.

The American businessman is pursuing the wrong tactics in his dealings with labor unions—that was the substance of "What's Wrong With Managers?"—page 63, PULP & PAPER, Jan. 1956 issue. More on this subject in March.

tions at the Waldorf. E. W. (Ted) Tinker, executive secretary, will inaugurate a central lounge where convention goers can meet their friends; have a spot of coffee; check latest stock market quotations on a stock ticker; view continuous color slide projections of community relations activities in the industry; and a bulletin board will enable members to change ap-

pointments without alienating any friends.

OPEN MEETING SPEAKERS—The APPA's Open Industry Meeting will hear Ed Gayner, president, Brunswick Pulp & Paper Co., comment on the USFS Timber Resource Review.

A. G. (Gus) Paine, chairman of the community relations committee and vice president and secretary of N.Y. & Pennsylvania Co., will review community relations developments.

George Olmstead, president of S. D. Warren Co., will present a factual report of community relations developments in this industry.

Allen Abrams, vice president in central research at Marathon Corp. will stress the importance of investing in more research.

Out-going APPA President Donald S. Leslie, president of Hammermill Paper Co., is expected to stress the significant highlights of the industry during his two-year term.

Speaker at the annual dinner Feb. 23 will be Howard Pyle, deputy assistant to President Eisenhower, exnewspaper correspondent, writer, radio program director, etc.

During the convention the APPA will also premier the Beloit-sponsored 21-min. sound, color film, "Your Career in the Paper Industry."

OTHER SPEAKERS—The theme of the APPA's export committee will be the export market and its importance to the domestic industry, reports Eric Lagerlof, secretary. Speakers are to be George Cobean, consultant, Champion Paper Corp. S.A., on overall world trade in paper; I. B. Oseas, secretary, Kraft Export Assn. of U.S., on kraft exports; and a "top man" from W. R. Grace Co.

Speakers for the Materials Committee meeting are to be Alfred G. Blake, executive v. p. of Minerals & Chemicals Corp. of America, on supply for clays and fillers; John Logan, general manager, Industrial Chemicals Div., Olin-Mathieson Chemical Corp., on outlook for chemicals.

The relationship of the controller to the purchasing department will be discussed by Stuart W. McLaughlin, controller, West Virginia Pulp & Paper Co.

A Forest Policy open meeting will feature a panel moderated by James L. Madden, vice president, Scott Paper Co. Four expected panelists are Ernst Schreiner, Northeast Tree Improvement Conference, in charge of the Northeast Forest Experiment Station; Stephen Wyckoff, executive director, Forest Genetics Research Fund; Dr. Philip Joranson, in charge of forest genetics, Institute of Paper Chemistry, and a representative from

Container Corp. of America, for the Southern Tree Improvement group.

OLDEST U. S. ASSOCIATION—A celebration will honor this nation's oldest national trade association, The Writing Paper Manufacturers Association, 95 years old. The organization will hold a special reception and dinner at the Waldorf, Tuesday, Feb. 21st, for members and their associates. Morris Dobrow, executive secretary, will celebrate his 40th year with the WPMA.

Promises of the atomic age will be discussed before the WPMA by Gordon R. Molesworth, head of a consulting firm, former executive with the Atomic Energy Commission.

TAPPI'S 41ST—TAPPI members will descend en masse for their 41st Annual Meeting, with a full program of some 150 papers. Water problems will get increased attention in view of the industry's expansion plans.

Other topics will be suction roll noise, odor judging for paperboard, new refining and pulp cleaning developments, to mention a few.

TAPPI Medalist for 1956 will be Dr. Harry Lewis of the Institute of Paper Chemistry, Roy L. Davis, Scott Paper Co., will make the presentation.

TAPPI President, Karl O. Elderkin, vice president and general manager of Bowaters Southern Corp., will take special pride as two of his men, J. N. Swartz and Charles Maki join with K. G. Chesley and W. C. Smith of Crossett Paper Co. to discuss their mills' underwater storage of pulpwood.

STREAM IMPROVEMENT — Before the National Council for Stream Improvement, Inc., a talk on mill site evaluation by Dr. Harry W. Gehm, technical advisor, NCSI, will be of interest because of the many mills now considering expansion. In the last two to three years, NCSI has been developing methods for working out mill effluent problems before these mills were built.

Members will be asked to appropriate \$10,000 to establish a water resource project at the U. of Michigan. This will be for a hypothetical study of a typical watershed where there is a normal usage for water, such as industrial, agricultural, recreational and other public uses. Purpose will be to determine the value of a study of low stream flow augmentation.

Another new subject will be air pollution; whether NSCI should expand its activity to study atmospheric pollution in the pulp and paper industry. A questionnaire submitted to 201 companies resulted in 144 companies responding. More than 100 companies said there was a need.

# The Old Timer



P&P's Old Timer
Digs Up Dirt on
Dusty Bahrenburg. Lon Sutherland, Maurie
Blew, Axel Norseen and Ives
Gehring.

PULP & PAPER's "Old Timer" now he
proof that papermen—even in the bud
ding stage—knew how to "live it up

PULP & PAPER's "Old Timer" now has proof that papermen-even in the budding stage-knew how to "live it up" even back in 1929. He found this in the dusty souvenirs of Prof. C. E. Libby, now head of the paper technology courses at North Carolina State. It was a menu of the dinner served at the first meeting of the "Junior Broke Hustlers," Syracuse School of Forestry, class of '30 held at Seneca River, N. Y. in April, 1929. The menu featured such dandy delicacies as "cooled swine," "warmed puppies" (hot dogs), "fermented cabbage" (sauerkraut), "Murphys and their relations" (various kinds of potatoes), etc. Here's a rundown of the hearty souls who could still eat after looking at the menu: "DUSTY" BAHRENBURG now general supt., Hammermill Paper, "ARCHIE" KOON, chief chemist and tech. director, Columbia Rope Co., EARL SETH KNAPP (director of quality control, Hinde & Dauch Paper Co., Sandusky, O.), FRANK "MAC MAKARA, New York patent attorney, W. M. "BILLIE" LANDES, Paper and Pulp Testing Laboratories, N. Y. C., L. A. "LEW" KORTE, American Dyewood Co., LIONEL SUTHERLAND, president, Sutherland Refiner Corp., MAURICE BLEW, chief chemist, Strathmore Paper, "AXEL" NORSEEN, Pusey-Jones, PHIL "pH" HAMMER, Tennessee Eastman, EARL "OIL" GUTLIPH, Buckeye Cellulose Co., STANLEY "JEFF" JEFFREY, Linde Air Products, IVES GEHRING, mill manager, Oswego Falls Corp., and ARTHUR REYBEN JONES, Oxford Paper Co.

P.S.—If the Old Timer puts you in a reminiscent mood, send him a contribution. He prefers them if they are humorous, true, with true names—and short. His address is 1791 Howard St., Chicago 26, Ill.

### What Consumers Will Hear

How North America is moving from the demand to the supply side of world market pulp will be emphasized in Executive Secretary Reed Porter's annual report during Paper Week to Association of Pulp Consumers, Inc.

North America is gradually assuming the major supply role in chemical market pulp, Mr. Porter told PULP & PAPER. In the past 10 years North America has jumped from 37% to about 50% of world supply of chemical market pulp.

"In the past 5 years alone," he stresses, "market pulp supply in North America has increased almost 1,100,000 tons in contrast to some 166,000 tons for Scandinavia (including Finland)."

On the demand side, North American consumption has dropped from 54% in 1946 to approximately 43% in 1955. The rest of the world has risen in the same period from 46% to 57%. In 1946 the rest of the world consumed less than 2,000,000 tons. At this writing, 1955 estimates are 3,600,000 tons. For the same interval, North America has risen from 2,300,000 tons in 1946 to an estimated 2,800,000 tons in 1955.

On the supply side, North America produced approximately 1,550,000 tons in 1946 and 1955 expectations were 3,200,000 tons.

For the short term outlook, says Mr. Porter, inventories all over are in good shape despite boom conditions.

"We no longer control the demand side," emphasizes Mr. Porter; "the rest of the world is taking the lead away from us."

Speaker at the Pulp Consumers 8th Annual Luncheon will be General Frank L. Howley, who as Allied Commander in Berlin from 1945 to 1949 worked every day with the Russians. He is now vice chancellor of NYU.

## Will Devote Entire Session To Forest Service's TRR

An entire morning's session will be devoted by the American Pulpwood Association during Paper Week to discussions of the U. S. Forest Service's Timber Resource Review (TRR), reports Bill Bromley, executive secretary.

America's supply of pulpwood, as revealed by TRR, will be discussed by H. R. Josephson of USFS, and reviewed from outside the Service by W. A. Duerr, State U. of New York.

A panel discussion on pulpwood supplies and the TRR will include A. D. Nutting, Maine Forest Service; Lowell Besley, American Forestry Assn.; W. J. Bridges, Jr., Union Bag & Paper; Dwight B. Demeritt, Dead River Co.; F. N. Fixmer, Mosinee Paper Mills; C. V. Sahlin, Puget Sound Pulp & Timber; and Messrs. Josephson and Duerr.

Weather modification, multiple use

of industrial forests, what's new in power saw use, trends toward rubber tire tractor logging, control of grapples for pulpwood handling and portable barkers will be among APA subjects to be discussed.

### **Expansion Continues**

#### East Texas Mill Sale

#### 5. D. Warren Additions

### **New Thilmany Machine**

• As the industry gathers for Paper Week, multi-million dollar news continues to "break" concerning expansion.

Thilmany Pulp & Paper Co. orders a 165-in. Yankee Fourdrinier from Black Clawson Co., to be the biggest of its 7 machines. A 15-ft. Yankee dryer, biggest yet in U.S.A., will be shipped by water. The machine will have dual and smoothing presses, pre-dryers, after-dryers and Beloit pressurized headbox.

Another new Babcock & Wilcox cyclone boiler, 200,000 pph, at 600 lbs., also is ordered for Thilmany.

At least two other Wisconsin mills plan new machines, though not yet announced.

EAST TEXAS DEAL—Houston Oil Co. is negotiating to sell its half interest in the new East Texas Pulp & Paper Co., also its 100% ownership in Southwestern Settlement and Development Corp., owners of a half million acres of Texas backing up that mill.

Time Inc. owns the other half of East Texas P. & P. Sinclair Oil last year bought American Republics Corp., which was partner in most Houston Oil properties.

OTHER PROJECTS—Menasha (Wis.) Wooden Ware Corp., already operating a plywood plant in Oregon, advises PULP & PAPER it is still exploring sites and looking for water for a pulp and paper mill in Oregon. Contrary to rumors, it has no intention of building another converting plant in California.

A forest survey is carried on in Canso Straight region, Nova Scotia, for a new Scott Paper Co., \$35,000,000 pulp mill.

International Paper Co. completes a \$1,000,000 high-brightness bleach plant, with chlorine dioxide bleaching, at Ti-conderoga, N.Y., of 125 tons capacity, for offset and text papers. This is double the old bleach plant there.

Dierks Forests, Inc., Kansas City, Mo., one of biggest lumber operators in America, buys a Pine Bluff, Ark., site for linerboard, wrap and bag paper mill. Financing is arranged. Mill will have one of richest wood backings in the South.

U. S. Forest Service timber for a Sitka, Alaska, pulp mill being sold on fixed date in late January, with Japanese-American company only expected bidder.

Georgia-Pacific Plywood continues

planning mills at Juneau, Alaska and in Oregon. Reports are that a major paper company requiring pulp for a new mill will tie into one of these projects as part owner.

Marathon is adding a No. 9 tissue machine at Green Bay, Wis., this year, giving it 20 machines at 6 mills. It has a 4-year growth program mapped, big item being new integrated Myrtlewood, Ala., mill.

S. D. WARREN EXPANSION IN MICHIGAN—Second major step in rebuilding S. D. Warren Co.'s Central mill, Muskegon, Mich., is completion by end of this year of a J. E. Sirrine Co.-designed modern bleach plant. Also new water treatment and effluent systems. Next comes rebuilding of kraft pulp mill at Muskegon.

Many improvements already made at Muskegon—a new Sumner Sollitt Coengineered coating mill, conversion of 145-in. No. 4 machine to machine coating, and its extension, 3 new off-machine coaters, 3 new coated paper supercalenders, new rotary cutters, a trimmer, sorting table and warehouse. Also, 2 Impco debarkers for hardwoods.

ST. MARYS ADDITIONS—St. Marys Kraft Corp., in Georgia, Gilman subsidiary, completes its No. 2 Beloit 236-in. Fourdrinier for foodboards, etc., also addition of a Bauer Cleaner and Rotareaed Deculator.

Remodeling of No. 1 Yankee tissue machine by Charmin Paper Mills, Green Bay, Wis., is recent improvement. Also a new warehouse, Raymond Concrete Piling Co. doing foundations. A new machine already was reported being considered.

Nekoosa-Edwards Paper Co., starts up its new 350-ton Combustion Engineering recovery furnace. Paul A. Laurence, Minneapolis, was general contractor. Also to Nekoosa kraft mill, D. J. Murray Mfg. delivers a new 36 ton, 12 x 22% ft. barking drum in one piece by truck.

Rayonier Inc. will build a tall oil plant at Jesup, Ga. Arranges with Hercules Powder to process much of the crude tall oil produced at Hercules plant at Savannah.

Eastern Corp. Bangor, Maine, and E. S. & A. Robinson Ltd. Bristol, England, announce the formation of Ascot Chemical & Adhesives Corp. to establish a plant in U. S. to manufacture and sell plain and printed pressure-sensitive transparent tapes and related adhesive products now produced and sold in world markets by Robinson in England.

# Want to Export Pulp, Paper?

How does your labor productivity compare with your foreign competitors? That's an important factor

#### By RUTH SHALLCROSS

(Written especially for PULP & PAPER)

· So you want to export your surplus pulp or paper by entering a foreign market. That is, of course, if it can be certain and profitable. Can it be? Yes, it can, if: (1) you have a higher labor productivity than foreign competitors; (2) a good market exists abroad-this depends on foreign consumers' ability to produce for exchange, or their productivity; and (3) government barriers do not prohibit such trade. This discussion will be concerned with the first "if" and incidentally with the second. The third "if" will be discussed in a succeeding article.

World trade is like domestic in that it results from the ubiquitous desire to exchange goods, despite color, race, creed, language or exchange differences. The larger the market, ordinarily, the keener the competition and the more that productivity will determine what producers will win consumers' favor and hence their exchange medium (money). Every producer knows instinctively that he must keep striving to produce better products at lower costs if he would keep a given portion of any market, domestic or foreign, even though he may not attempt to measure his productive efforts.

Incredible as it may seem the economic measure of efficiency, "productivity," is universally misunderstood. It has been erroneously used synonymously with production. It has been used as a measure of efficiencies brought about by labor-saving machinery alone. Perhaps because it is usually measured by the labor factor, union leaders have on occasion used

RUTH SHALL-CROSS studied at Bryn Nebraska, Mawr and abroad. Was Research Director of Business-Professional Women's Clubs. Served with WPB. Is Consultant to indus-tries and Institute of Paper Chemistry.



"increased productivity" as one of the grounds for higher wages. What is it?

IT'S LIKE METABOLISM-Productivity is to the economist what metabolism is to a physician. The latter measures the overall chemical functioning of the body by the userate of one factor, oxygen; productivity measures the overall efficient functioning of an economic unit by one factor, labor-i.e. output per man, or per man-hour, shown in several ways: in actual units of production, as an index, or in monetary terms. It is better understood by analyzing the main factors which determine it because it is a measure of all factors in combination (see list appended.) No one factor can lay claim to all the benefits of an increasing productivity.

HOW PRODUCTIVITY COMPARES BETWEEN NATIONS-In a comparison of overall efficiency how do pulp and paper companies rate with foreign competitors? Some research has been done on this (note references). Dresch<sup>ii</sup> states that the "average productivity of manufacturing labor in western Europe is about 35% of that in the United States." Italy and Spain were the lowest, 15-20%; Sweden and the United Kingdom were 45-50%: and Canada 78-79%.

Rostasiii found that the paper industry was comparable to the manufacturing average in a comparison of rates in the U.S. and U.K. The U.K. was on a par generally with Germany, Sweden and Holland, although Sweden had a higher productivity in making paper than its manufacturing

Since Rostas' study, Germany's general productivity rate has risen and may surpass that of the U.K. now. No direct comparison between the U.S. and Swedish pulp and paper producers is available. (Productivity measures between countries are being

### Check List for Labor Productivity

(Partial outline of factors which determine labor productivity viii)

✓ TECHNOLOGICAL FACTORS—the ingenuity of technically-trained personnel and others in devising improved innova-

A. Tools and Equipment B. Productive methods

B. Productive C. Materials

MANAGERIAL FACTORS-attitude and ability of business leaders with respect to:

A. Decision-making and timing in making the best possible choice in allocating resources of labor, raw materials, and capital

labor, raw materials, and capital

B. The spirit of competition and the assumption of its risks
C. Efficient scheduling of work, of plant layout, and in purchasing and handling materials
D. Aggressive expansion of markets through research and product development
E. Application of science to production
F. Efficient handling of labor relations and other personnel problems
G. Standardization of products as well as specialization to meet unique consumer demand
H. Attracting capital for improvements, new products or general expansion
I. Equipment replacement and depreciation policies

J. Future opportunities for private enterprise

**▶ LABOR** FACTORS—characteristics of the labor force with respect to: Degree of skill, know-how and general in-

B. Health C. Hours of work and form and size of com-

Morale:

Morale:
 General adjustment, responsibility and adaptability in accepting innovations, new ideas, new methods
 Attitude toward incentives
 Ability to cooperate with management
 Geographical mobility

5. Understanding the free market economy as contrasted by alternative: state-controlled

6. Religious and moral attitudes E. Type of labor organization and role of its leaders

GOVERNMENT FACTORS—policies dealing with:

A. Balanced budget (inflation)
B. Taxation (including depreciation restric-

Competition and protection of a free market

D. Monopolistic practices in industry and labor organizations

D. Altorions of controls, restrictions, allocations, or influences on: prices, wages, materials, supply of money, interest rates F. Foreign policy including tariffs and other foreign trade regulations G. Labor-management relations and "full employment"

I. Federal-financed production in competition with private enterprise

✓ ECONOMIC FACTORS—the general economic climate affecting:

A. The allocation of population between farm-

and industry The availability and cost of transportation Good and adequate communication facilities
Willingness of the public to save, invest
d accept new products

E. The money market—the availability and

E. The money market—the availability and cost of capital F. The size of a market for any one product G. Optimism as to future opportunities for individual initiative

#### NATURAL FACTORS:

NATURAL FACTORS:

A. The weather

B. Size, age, geographical concentrations, and inherent characteristics of the population

C. The presence or absence and proximity to users of natural resources including: mineral deposits; condition of the soil; sources and availability of water; growth, amount and kind of fibrous materials

Dr. Shallcross has served and is serving as conomic consultant to pulp and paper companies and is Consulting Economist and Lecturer, Institute of Paper Chemistry.

This is second of a series written for PULP & PAPER. The first (Jan. 1956 issue)

outlined the steps a company must take to succeed in foreign commerce.

perfected.)17 Available data, however, would seem to place the Swedish productivity rate closer to Canada's in comparison with the U.S., thus leaving the U.S. with a competitive advantage, although not too great a one, between our main pulp competitors. The picture is less clear with paper or board.

HOW DO MILLS AND COMPA-NIES COMPARE-Certainly evidence abounds of the overall U.S. productive supremacy generally. v And reliable evidence shows that the U.S. pulp and paper industry is more productive than U.S. manufacturing generally. But whether or not a particular company can compete with a foreign producer of a particular grade of paper is debatable. Parker maintains that "grade for grade, type of mill by type of mill" there is no real productivity differential between the U.S. and the British industry. He states that there cannot be "where you have a complete universality of equipment" and "our people are no more efficient than they are abroad but they get an average wage rate of about \$1.80 or more instead of 60 cents abroad."vi

Palyi states that labor rates are not the test. "More often than not," he claims, "labor costs per unit of output are higher in European manufacturing than on this side . . . "vii His main reasons in brief are: "exorbitant fringe benefits" and other demands, "lack of incentives," "union resistance to laborsaving devices," less efficient use of labor, and government controls.

Just where does this leave you in helping to decide whether or not you can compete in a foreign market? Lacking relevant, specific, and comparable price and cost data, a rough appraisal can be made by analyzing the various factors determining labor productivity. The list may suggest improvements which will lead to a better competitive advantage. It will also show impeding influences but which for the most part are beyond the control of any individual producer. If these could be recognized by both producers and consumers as hindering economic welfare their impeding influence could be mitigated and the productivity rate improved. These influences are to be found in labor union and government policies.

WHEREIN UNIONS IMPEDE LA-BOR'S PROGRESS-Where union leaders engage in: feather bedding; placing a premium on unemployment rather than production; forcing seniority or union membership as the basis of employment and promotions rather than ability; fighting automation and other efficiencies; using monopolistic power, force, and violence to gain demands not earned which if granted must be paid for by jeopardizing other productive factors, they are impeding the very productivity progress which has given their members and other working people the highest wages and best working conditions in the

Failure to recognize that the increasing productivity rate in the past has been accomplished with less "brain, brawn, or skill" on the part of labor has led to non-cooperation with management that has been an added impeding factor. Pulp and paper workers generally have been more cooperative than many other highly organized union workers or those in most foreign countries, giving the U.S. pulp and paper industry a slight competitive advantage thereby.

WHEREIN GOVERNMENTS IM-PEDE PRODUCTIVITY-The growth of government is another impeding influence in the productivity progress of an industry and the economy affecting foreign competition. When government policies result in: waste of resources; government expenditures exceeding tax receipts causing inflation through the inevitable mounting debt; high and punitive tax rates (U.S. corporate tax is one of the highest in the world); or restrictive controls over production and trade, the government becomes an effective impediment to labor productivity.

HOW THIS COMPARES ABROAD-Impeding influences in both labor unions and government, while increasing in the United States, have been more effective barriers to high productivity in most countries abroad. It would seem therefore that you would certainly have a good competitive advantage in foreign markets. You could discover this for any particular market at any given time by simply attempting to sell to one of the several good exporters. If steady sales can be made, the evidence is fairly clear that your efficiency is higher than those of competitors both here and abroad.

It must be recognized, however, that the lower productivity of foreign producers indicates a comparable lower productivity of consumers. Therefore, expected markets abroad cannot be as good as domestic ones, particularly when consideration is given to the added obstacles of greater distance and the uncertainties of everchanging marketing rules set by government.

Where U.S. producers have challenged competitors abroad because of superior productivity, governments on a number of occasions have erected artificial barriers to that trade. The most effective one, however, has been exchange controls, which along with others will be discussed in a following issue of PULP & PAPER.

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### Permanent Stake in Europe

The World's Paper Trade Review, published in London, says in a recent issue:

"A number of North American pulp producers have been studying the European market in general, and that of the United Kingdom in particular, and there are now signs they have decided on a permanent stake both here and on the continent. In the past there has been a feeling, widely held here, that the North American producers did not regard the European market as at all important . But there is evidence that today both United States and Canadian producers are definitely earmarking part of their output for Europe . . . in some cases have indicated quantities likely to be available for some years ahead. This attitude is gradually building up confi-



in Joining



. in Commerce



in Agriculture





# How to Humanize An Annual Report

• These pictures-and one of the forlorn male on our cover this monthwere instrumental in again winning high honors for Union Bag & Paper Corp. for its annual financial reports. The pictures dramatically reveal the universality of paper. In America we use more paper than any other commodity except water. It is now the No. 4 industry of the U.S.A., according to APPA leadership, the No. 1 industry in Canada, and one of the fastest

PULP & PAPER selected these pictures from a 10 by 12 in. album of human interest photographs which Union sent to thousands of stockholders, security analysts, colleges with business schools, etc. In a cover pocket of the album was tucked Union's 8½ by 11 in. financial report.

In its advertising and promotion, Union usually hammers away at one major objective-to show how paper is intimately associated with all life.

"It's a Paper World", a story in Union's Digester, says all the paper produced in the U.S.A. in one year, in a one yard wide strip, would stretch to Mars and back, 70 million miles, with enough left over to circle earth 800 times. This doesn't count 5,000,000 tons of imported newsprint. And even that isn't enough. There are shortages today in many grades.

Potentials for increasing paper use in the world are strikingly shown by these facts: New York City, alone, uses more paper than all South and Central America. An Asiatic uses only about 1% as much as an American.

It took over a year for Union to complete its picture album. It searched for scenes from Maine to California. All seasons, moods, young and old, are represented. Some "shots' are candids, some are staged. Fred Meendsen, Union's vice president in charge of advertising and sales promotion, and Malcolm S. Black, secretary and treasurer, created the annual





# INDUSTRY NEWS OF WORLDWIDE INTEREST

# NOTICIAS MUNDIALES DE LA INDUSTRIA

JAPANESE ON TOUR OF PAPER MILLS—Supervisors of Kanzaki Paper Mfg. Co., whose large mill is in Japan's second largest city, Osaka, have been touring mills in the U.S.A., Sweden, England, Germany and Switzerland. Tsuneo Miyake, chief of engineering, Yoshihiko Hayashe, pulp mill superintendent, and Yoshio Nakanishi, control superintendent, were interested in coated paper developments, new debarking machines, etc. Their mill employs 1,000 persons, makes coated and uncoated book, board and wrapping paper. Wages in the Kanzaki mill range from \$40 to \$80 monthly, with average \$100 semi-annual bonuses. For lower income groups taxes are about 15% of income.

U.S. COMPANIES PICK IMPORTANT STAFFERS FOR MEXICO—Those who know the men picked by Kimberly-Clark and Scott Paper to manage their new Mexican properties, appreciate that valuable, comparatively young executives are being sent there. Phil Bachelder, who has been secretary and assistant treasurer of Coosa River Newsprint, is general manager for the new Kimberly-Clark de Mexico, S.A. de C.V., now owners of the two "Aurora" mills. Pete Heintzkill, K-C staff engineering, goes with him as mill manager, and Frank Wooldridge, as sales manager. Dr. Roy L. Davis, former plant manager of Scott's Detroit Division, and one of first two graduates of the Institute of Paper Chemistry, is executive vice president and treasurer of Cia. Industrial de San Cristobal, S.A., now owned by Scott and Dr. Dante Sandro Cusi, president.

NEW MILLS FOR MEXICO AND FRANCE—Stadler, Hurter & Co., Montreal engineers, and Canadian Sumner Iron Works, are jointly working on a new pulp mill in France—La Celulose du Rhone at Tarascon—and a newsprint mill in Mexico—Celulosa de Michoacan. Sumner is designing the wood preparation plant. First Sumner chipper going to Europe will be shipped to Tarascon. M. A. Campbell, of Stadler, Hurter is project manager in Mexico. Louis Bailey is planning logging. Abis fir, up to 55 inches diameter, will be barked in a "Bellingham type" hydraulic barker.

SOVIET PULP FOR JAPAN—Shinten Jitsugyo Trading Co. has agreed to trade Japanese copper for 12,000 tons of paper pulp from Russian-held Sakhalin Island, and two pulp deliveries already have been made.

PREDICTS EXPANSION—Norberto A. Reichert, department chief in Argentine's ministry of agriculture, told a United Nations FAO meeting in Rome that Latin America will eventually become self sufficient in pulp and paper. Obstacles are economic and environmental, but there will be rapid expansion, he said.

BUYS MILL IN VENEZUELA—Richmond Pulp & Paper Co. of Canada and the Kruger organization have bought substantial ownership of Papeles de Venezolenos C.A., with a tissue mill at Caracas. Pulp will be shipped from Richmond's mill in Quebec. H. A. F. Gregory, former East Angus, Que., mill manager, will be manager of the Venezuelan mill.

VIAJEROS DEL JAPON—Un grupo de funcionarios de la Kanzaki Paper Manufacturing Co., cuya fábrica se localiza en Osaka, segunda ciudad del imperio, han estado haciendo viaje de inspección de fábricas en E U, Suecia, Inglaterra, Alemania y Suiza. El Sr. Tsuneo Miyake, jefe de ingenieros, Sr. Yoshikiko Hayashe, jefe de la fábrica de pulpa, y Yoshio Nakanishi, jefe de control, mostraron particular interés en el papel de imprenta, nuevas máquinas de descortezar, etcetera. La fábrica Kanzaki tiene mil empleados y se dedica a fabricar papeles de imprenta. Los salarios de los operarios son a razón de 40 dls. a 80 dls. mensuales con adiciones semestrales de 100 dls. promedio.

GERENTES DE ALTA CATEGORIA PARA MEXICO—Se ve que los señores que han sido nombrados por las compañías Kimberly-Clark y Scott como gerentes de las nuevas fábricas en Mexico son personas de gran mérito y poca edad. Sr. Phil Bachelder, nombrado gerente de la Kimberly-Clark de Mexico, SA de CV, fue secretario y subtesorero de la Coosa River Newsprint. La K-C de Mexico es propietaria de las dos fábricas Aurora. Sr. Peter Heintzkill, ingeniero, y Frank Wooldridge, gerente de ventas, acompañan al Sr. Bachelder. El Dr. Roy L. Davis, que fué gerente de la división Detroit de la Scott, y fué también uno de los dos primeros bechilleres de la Institute of Paper Chemistry, es ahora vicepresidente y tesorero de la Cia. Industrial de San Cristóbal, propiedad de la Scott y del Dr. Dante Sandro Cusi, presidente.

NUEVAS FABRICAS EN MEXICO Y FRANCIA—Stadler, Hurter & Co., ingenieros de Montreal, Canada, y la Canadian Sumner Iron Works, están preparando una fábrica nueva de pulpa en Francia, la Celulose du Rhone, en Tarascón, y otra de papel periódico en Mexico, la Celulosa de Michoacán. La primera astilladora Sumner en Europa se enviará a Tarascón. El gerente del proyecto en Mexico es Sr. M. A. Campbell de la Cia. Stadler, Hurter, y el plan de corte queda a cargo del Sr. Louis Bailey, Palo abeto de diámetro hasta de 55 pulgadas, se descortezará en una máquina hidráulica tipo Bellingham.

PULPA DE LA URSS AL JAPON—La Shinten Jitsugyo Trading Company ha convenido en trocar cobre del Japón por 12.000 toneladas de pulpa de la isla soviética de Sakhalín, y ya se hicieron dos entregos de pulpa.

PRONOSTICO—Declaró el Sr. Norberto A. Reichert, jefe de departamento del Ministerio de Agricultura de la Argentina, en una junta de las Naciones Unidas con la Dirección de Ayuda al Extranjero de los EU, celebrada en Roma, que la América Latina logrará producir suficiente pulpa y papel para suplir sus mismas necesidades. Se encuentran obstaculos económicos y naturales, dijo el Sr. Reichert, pero la industria crecerá rápidamente.

SE VENDE FABRICA VENEZOLANA—Ha comprado la Richmond Pulp & Paper Co. del Canadá la propiedad de Papeles Venezolanos, que tiene fábrica de papel de seda en Caracas. Allá se enviará pulpa de la fábrica de Richmond en Quebec. Sr. H. A. F. Gregory, anteriormente gerente de la fábrica en East Angus, Quebec, será gerente en Caracas.



# Holyoke Expands

• New industrial events are happening in one of the oldest industrial centers of America. New potentials for both papermaking and paper converting are adding an important surprise postscript to the long and illustrious story of one the world's great "Paper Cities"—Holyoke, Mass.

For many decades of American history—right up to the dawn of the 20th century—Massachusetts was the No. 1 paper producing state of the nation, quantity-wise. It surrendered that honor to New York a half century ago and gradually has dropped far down the list of states, in tonnage-produced, but for quality and specialty paper products, any "Old Colony" Yankee worth his salt will insist it is still tops.

The news about the Bay State's great little "Paper City" is that it is actually expanding its paper production.

Quietly, without fanfare, several new paper machines have been installed—or are on order. Other improvements and additional units are in operation or soon will be.

A newly discovered latent "wealth" in the nearby New England hardwoods, heretofore scorned as a worthless pulp-paper raw material, now is regarded as a guarantee of a new lease on life for this "Paper City."

Holyoke is also attracting paper converters. This chapter of a special PULP & PAPER field-written report will tell of the revitalized papermaking city. Next month, another chapter will report on Holyoke's growth and potentials as a paper converting center, within easy reach of an estimated market of 15,600,000 Americans and overnight from one-third of the U. S. population.

At the special invitation of Holyoke's industrial leaders, PULP & PAPER came to take a look at this "city in the country," situated on a sweeping bend in the Connecticut River, where the water drops 60 ft. in a mile and a half flow.

PULP & PAPER visited a majority of Holyoke's nine paper mills and

"PAPER CITY" FROM THE AIR. View of Holyoke, Mass., showing location of paper manufacturing plants.

# and Revitalizes its Paper Industry

New developments are rejuvenating this historic "Paper City"—more paper machines bring more converting

more than 20 paper converters with Bert Kent, retired resident manager of Hercules Powder Co., Inc., now assistant to George Wallace, Jr., president of Hadley Falls Trust Co. Mr. Kent is also the new president of the Holyoke Chamber of Commerce.

Holyoke is said to be the only U.S. city planned as an industrial community before it was developed. Here's how it happened:

HOW IT BECAME A "PAPER CITY" -In 1849, a group of industrialists, predecessors of the present Holyoke

Water Power Co., saw the natural potentials for cheap power and adequate water supply and thought, What a spot for an industrial city!"

Within the confines of this bend, this twinkling in their industrial eye became a reality as they erected a dam and interlaced three levels of canals, 4.5 miles long. The dam, foundation of the vast local water power development, spans 1,000 ft. across the river from Holyoke to South Had-

The canal system is the largest of its kind in the U.S. and supplies local paper companies with hydraulic power and water for process purposes. Water softeners are not needed.

For more than a century Holyoke in Massachusetts has been known as "The Paper City"-not only for its manufacture of paper but also for the host of paper converters. Holyoke craftsmen are now in the fourth generation of skills in the handling of paper and, in the minds of paper industry management here, they constitute one of the city's real assets.

Each year to this hub of papermaking and converting activity, comes

## Helping to Spread the Good Word for Holyoke, the "Paper City"



EDWARD C. REID, Pres., American Writing Paper Corp.: "Holyoke is a Paper City which specializes in special-tice"



HENRY BURGEE, Vice Pres and Gen. Mgr., Parsons Paper Co.: "Any paper manufacturer or converter should con-sider Holyoke very seriously."



ROBERT M. SWANEY, Pres., Franklin Paper Co.: "Future plans include speed-ing up our rebuilt Downingtown cylinder machine to around 400 fpm."



RALPH H. MORRILL (left), Pres. and Gen. Mgr. of both Chemical Paper Mfg. Co. and of Crocker, McElwain Co.; EDWARD C. TUCKER (right), Vice Pres. of both these Holyoke companies.



ROBERT BELSKY (left), Treas., J. WES-LEY SHAW, Jr. (center), Sales Mgr., and CHARLES DAVIDSON, JR., Pres., have "made good" since taking over management of Whiting & Co. two years





an estimated 60,000 tons of bleached sulfite and sulfate pulps from Scandinavia, Maine, Canada and the West Coast. Scandinavia and Canada supply about 20% each and the West Coast around 80%.

Each day about 550 tons of paper and paper products are produced by the 9 paper mills and some 20-odd paper specialty plants and converters. Tonnage-wise this does not appear significant; but these are for the most part specialty papers produced at slow speeds and for short runs.

Put aptly by Edward C. Reid, president of Holyoke's largest paper manufacturer, American Writing Paper Corp., "Holyoke specializes in specialties."

The industrial payroll of Holyoke is around \$280,000,000, of which the paper industrys' share is an estimated \$30,000,000 to its more than 5,875 craftsmen.

BIGGEST USER OF POWER—The paper industry is the largest user of power of any industrial group in the city, says Bob Barrett, Jr., president of Holyoke Water Power Co. Not only is it the largest purchaser of electricity from the utility systems, but also, he says, a large amount of hydraulic power is generated in the respective mills from their own water power installations, using water from the extensive local canal system.

WHAT DOES HOLYOKE OFFER?

-Here's a glance at some advantages found in Holyoke that helped
make it "Paper City."

1. Holyoke is excellent for the small converter who can't afford to build. Many older factory buildings have been converted into modern manufacturing space, offering low rentals. These are dead center to the source



HOW CANAL SYSTEM CUTS THROUGH HOLYOKE is seen in this picture showing one of several mills of American Writing Paper Corp. and executive offices.

of raw materials and in the heart of a trained labor market. In turn, these converted products can be shipped at low cost to one of the richest consumer markets in the U. S.

2. Holyoke is a pool car assembly point for shipments to metropolitan New York, Philadelphia, Washington, D. C. and Chicago. Special freight rates are in effect, too.

3. There is an abundance of perfect papermaking water at low cost.

4. Power rates are third lowest in the state.

5. State and other taxes are rated sixth lowest in the state.

Mature relations exist between management and labor.

 Holyoke is well protected along its river banks from flash floods by a series of federally-constructed dikes and flood walls.

8. The fourth generation craftsmen are proud of their skills and, as one industry leader put it, "have paper in their blood."

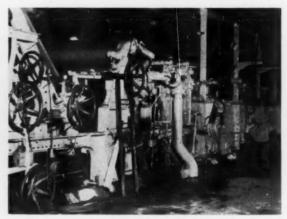
The Regional Business Development Corp., a non-profit group, and the Holyoke Chamber of Commerce are spearheading the program to tell prospective industries of Holyoke's advantages. Although industrial diversification is one of the keynotes of this program, there is keen awareness that Holyoke offers special advantages as a paper center. President John S. Begley of the Development Corp. says: "If anyone is going into the paper industry, this is the place."

IDEAL MILL SITE CHOSEN—A plan has been drawn up by Robert Barrett, Jr., president of the Holyoke Water Power Co., which he says involves a natural site for a pulp and paper mill. Located on an 80-acre plot on the shores of the Connecticut River, this site is on the main rail lines serving New England and major consumer markets westward.

Mr. Barrett also stresses that there are abundant hardwood forests within a 75-mile radius of Holyoke from which this mill could draw its raw material for processing into pulp. The idea is not far-fetched, because just



HOYOKE'S FIRST PAPER MILL is going better than ever and has spent some \$1,250,000 since 1947. Here is new finishing room at Parsons Paper Co. Photo by PULP & PAPER.



FRANKLIN PAPER ADDITION—5-cylinder Downingtown paper machine bought from Hinde & Dauch Co. as part of \$300,000 expansion and improvement program.

beyond this radius is the Mechanicville, N. Y. mill of the West Virginia Pulp & Paper Co., which has recently converted to 100% hardwood production. Chemi-groundwood process possibilities are also being considered at Holyoke.

AMERICAN WRITING ORDERS 2 MACHINES—American Writing Paper Corp. of Eagle-A brand fame, Holyoke's largest paper manufacturer, is 56 years old.

In the office of Pres. Edward C. Reid, PULP & PAPER got an intimate glimpse at what this giant writing paper industry is up to.

"Expansion and improvement is not a stop and go affair with Eagle-A," said Mr. Reid. 'It is a continuing activity. Just this morning, we decided to purchase two new Fourdriniers. We have spent some 6 1/4 million dollars on improvements, but to be frank, we don't like to look back. We'd much rather look ahead at the potentials for Eagle-A in Holyoke."

The two new Fourdriniers Mr. Reid mentioned will be the much talked about Sandy Hill Iron & Brass Works' new Ideal Fourdriniers featuring standardized units. Trimming 90 in. and capable of speeds up to 300 fpm, these versatile machines will be used primarily for writing paper and high grade specialty papers.

Eagle-A makes more than 100 grades of paper from groundwood right up to 100% rag, board and sulfite specialties. As are other Holyoke paper makers, Eagle-A is primarily a custom papermaker.

Mr. Reid is convinced that "all fine paper is made in the beaters." The paper machine is "the conveyor," he stated. That's why Eagle-A recently purchased three new E. D. Jones-Bertram beaters and has two more on order.

PARSONS MILL KEEPS IMPROV-ING-Holyoke's first paper mill, Parsons Paper Co., is going better than ever and has spent some \$1,250,000 since 1947; part of this has been to rebuild two of its three Fourdriniers.

Parsons sells to converters in Holyoke, says Henry Burgee, general manager. This is a decidedly big factor to both supplier and buyer. The advantage of the converter being near the source of supply is self evident, he says, and in addition they have access to the nearby markets as well as pool car freight shipments to all the U. S.

A MODERNIZED MACHINE AT FRANKLIN—At Franklin Paper Co., Robert M. Swaney, president and general manager, showed PULP & PAPER the rebuilt 74-in. trim, 5 cylinder



CHEMICAL PAPER MFG. CO. is between Connecticut River and bend in this canal; one of three canal levels which supply Holyoke paper industry with power and process water.

machine purchased from Hinde & Dauch Co. This is part of Franklin's \$300,000 expansion program. The machine is quite versatile, remarked Mr. Swaney, and makes about 50 tons a day of board. A new Moore & White sheeter backs up the dryer section.

Future plans at Franklin, says Mr. Swaney, include speeding up of the machine from 250 fpm to around 400 fpm and new stock preparation equipment.

NEW FOURDRINIER AT CHEMICAL PAPER MFG. CO.—Ralph H. Morrill, president and general manager of Chemical Paper Mfg. Co., showed PULP & PAPER some highlights of his company's recently completed \$1,000,000 improvement and expansion program.

"Replacing the old No. 2 machine with a new 1955 Fourdrinier," said Mr. Morrill, "is just another milestone in our program which has as its goal the keeping of Chemical and Holyoke in the forefront of the fine paper industry."

The new 130-in. Bagley & Sewall Fourdrinier trims 118-in. and is designed for a top speed of 700 fpm. It is driven by a Horne belt drive powered by General Electric motors. A Nash Hytor pump supplies vacuum on the couch section and press section.

Stock preparation equipment features E. D. Jones & Sons jordans with Accru-Set fully automatic controls. This is a worm gear plug adjusting mechanism mounted in anti-friction bearings and permits accurate adjustment of plug position and absorbed horsepower.

Other stock preparation equipment includes Bauer pulp cleaners (formerly Centri-Cleaners) and Bird screens.

The press section features a first suction and a conventional reverse

press

The dryer section features rope carriers and a Mt. Hope expander roll on the size press. Vickory doctor blades on the press rolls and calender rolls are supplied by Bird, and back of the calendars is a Cameron high speed winder with top speed of 2,500 fpm.

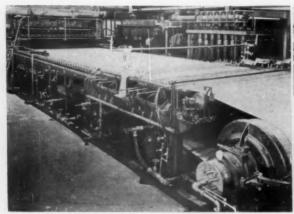
Commenting on the new machine, General Supt. John Riley told PULP & PAPER that the machine is well built and well balanced. This Bagley & Sewall Fourdrinier is designed for 8 lb. to 24 lb. paper (basis 17 x 22.)

CROCKER-McELWAIN STARTS NEW POLICY—Chemical's affiliate, Crocker-McElwain Co., of which Mr. Morrill is also president and general manager, has just celebrated its 50th year as a manufacturer of fine papers. In that time it has contributed its share to the growth and reputation of Holyoke as a 'Paper City," says Ed Dunbar, sales manager.

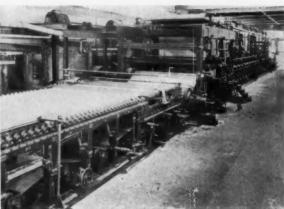
During the war years this company made rag content map paper and also rag content index for fingerprinting. Its Certificate Bond is known and used from coast to coast and its reputation for quality papers has certainly helped Holyoke maintain its standing, Mr. Dunbar told PULP & PAPER

At this start of its second half century, Crocker-McElwain is putting into operation a new expansion policy. This will include new papers such as parchment, machine-decorated papers, fancy lines of color deckles and colored watermarks for the converting trades as well as technical and industrial papers.

WHITING & CO. UNDER NEW OWNERS—It was just two years ago that "the chance of a lifetime" was offered to Charles Davidson, Jr., J. Wesley Shaw, Jr., and Robert Belsky, when Edward C. Whiting, then presi-



WET END OF NEW 130-IN. MACHINE. Across Fourdrinier of this new Bagley & Sewall machine at Chemical Paper Mfg. Co., can be seen the pipe-organ-like Bauer Cleaners.



AND HERE IS DRY END OF NEW MACHINE. Part of Chemical Paper's \$1,000,000 expansion. It has belt drive and General Electric motors, rope carriers in dryer section.

dent and treasurer of Whiting & Co., offered them ownership of the com-

"Don't get any misconception," cautioned Charles Davidson, now president of Whiting & Co., "we were not getting anything for nothing. But the kind of money we needed to close the deal just didn't appear like that" (he snapped his fingers).

A trip to Boston brought discouragement and just on the eve of the deadline, George V. Wallace, Jr., president of Hadley Falls Trust Co., heard of their plight and offered to back them.

"The boys are aggressive and progressive," he said, "and they'll make good."

The "boys" are making good as PULP & PAPER found. To date they have speeded up their two machines, added new beaters, new screening equipment and are planning on additional dryers.

WHITING ALERT FOR NEW BUSI-NESS-Papermaking is still a fine art

at Whiting & Co., Mr. Davidson told PULP & PAPER. Here, too, paper is made in the beaters. Mr. Davidson came to Holyoke 23 years ago with his father, who was a superintendent for Whiting. He became superintendent of No. 3 mill and for three years was general superintendent of all three mills. Thirteen years ago, he became general manager and vice president.

A short time ago, Wes Shaw, ever alert for new business, dropped in on one of Holyoke's new successful growing paper converters and said, "Look here, fellows. We can make this product for you better, give you faster delivery at lower costs and offer you greater quality control through every one of our manufacturing steps because of your nearness to our mill. Not only that. Your product is highly specialized and we can offer better communication controls all the way through.

P. S. Whiting & Co. now makes this specialized paper for this company

OTHER HOLYOKE PAPERMAK-ING MILLS-Whiting Paper Co., entering its 91st year of fine paper making, has just completed installation of a new 94-in. Fourdrinier. Built by H. J. Horne Co., Lawrence, Mass., this machine is designed for speeds up to 400

With this in back of his mind, George F. Whiting, secretary, told PULP & PAPER that Holyoke will continue to be a major industrial town for the manufacture of paper. The canal system for which Holyoke is famous, he says, will continue to make this center attractive to the industry, and with it he feels Holyoke has the greatest potential of any paper making town near the large cities of the East.

For making our high grade papers, says Russell S. Madden, president, Valley Paper Co., it is very important that there be an abundant supply of clear water. In this respect, he says, Valley Paper considers itself fortunate to have available the excellent water from the watersheds and mountain streams of the upper Connecticut

Valley has two 70-in, and one 84-in. Fourdriniers and produces bond, ledgers, air mail papers, writing and other high grade specialties.

Newton Paper Co. makes about 60

tons of specialty paperboards on one 58-in. and one 68-in. cylinder machines. Holyoke's particular advantage, savs William W. Newton, vice president and secretary, is the waste paper which is his mill's main raw material and which is generated in ample supply in a variety of grades in this area.



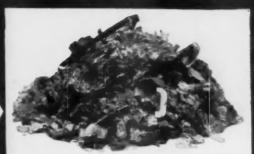
NEW JONES BEATERS AT WHITING & CO. A seemingly endless line of new E. D. Jones beaters exemplifies the saying in Holyoke, "Fine papers are made in beaters

**NEXT MONTH—Another special PULP & PAPER report on Holyoke** -How it is growing as a Paper Converting Center, Too.



TAKE OUT

PUT THROUGH



KNOTS • SLIMES • CHIPS • SLIVERS
KNUCKLES • COCKLE BURRS • UNCOOKED
FIBRES • WET STRENGTH PAPER • CELLOPHANE • PAPER CLIPS • RUBBER BANDS
GLASS • METAL • ROCKS
(MOST ANYTHING YOU
DON'T WANT IN YOUR STOCK)

OF CLEAN STOCK
AT LOW COST

**BIRD JONSSON SCREENS** are being used by the hundreds for knotting, bull screening and all kinds of perforate plate screening. They are virtually standard for use ahead of brown stock washers; are ideal for screening waste and de-ink stocks, straw stocks and stocks from refiners, defibrators and masonite guns.



Jonsson Screens combine high capacity with the ability to handle stock at high consistencies. On ground-wood and kraft, for instance, the output is 200 tons at  $2\frac{1}{2}\%$  consistency. They take up little space and headroom. Cost of operation and maintenance is surprisingly low.

Ask us to make recommendations, estimates and layouts.

BIRD MACHINE COMPANY SOUTH WALPOLE, MASS.

REGIONAL OFFICES: EVANSTON, ILLINOIS
PORTLAND, OREGON • DECATUR (Atlanta), GEORGIA



# Cowan Centrifugal Pulp Screens by APPLETON MACHINE COMPANY

Added efficiency, greater economy are the watchwords for Appleton Machine Company's junior versions of the standard Mark "A" Cowan Centrifugal Pulp Screen, acknowledged as outstanding in its field.

The Mark "E" Screen is a half-sized model of the standard Mark "A", conservatively rated at a capacity of 2400 U.S.G.P.M. accepted stock. 50 h.p. is required to operate the Mark "E", but its drive is designed to accommodate a 60 h.p. motor, wherever needed. The Mark "E" is particularly advantageous in smaller mills, or as a supplementary screening unit. Also, installing two Mark "E" Screens—instead of a single larger machine—provides a definite safety factor in case of breakdown.

The "Junior" Screen is a quarter-sized model of the big Mark "A", with a rated capacity of 1400 U.S.G.P.M. accepted stock. 25 h.p. operates the "Junior" Screen, but it will handle motors up to 40 h.p. Greatest applications are as secondary screening units, and

as a primary screen for mills producing a variety of pulp grades which require a system made up of small, separate units.

Performance of these two Cowan Screens is comparable in every way to that of the standard Mark "A" Screen . . . the same high consistency screening . . . low percent rejects . . . good fiber separation . . . low shower dilution pressure . . . top hydraulic efficiency. Typically sound Appleton Machine construction plus a protective coating tailored to fit your needs complete your assurance of long-time satisfaction.



CUSTOM-BUILDERS OF PULP & PAPER MILL MACHINES
WINDERS . FINISHING ROLLS . REWINDERS

# PICTURE NEWS of the **INDUSTRY**





In Scott Enterprise in Mexico

GEORGE N. CARLETON (left), native of Michigan and Vice Pres. of Scott Paper Co. will serve as a Director of Scott's new enterprise in Mexico City, Compania Industrial de San Cristobal, S.A. Scott has joined with Mexican owners with a major ownership in this mill, to produce Scott products. Pres. McCabe of Scott is also a Director. also a Director.

DR. ROY L. DAVIS (right) is new Exec. Vice Pres. and Treas., as well as Director, of the Mexican company. Dr. Dante Sandro Cusi is Pres. Dr. Davis was one of the first two graduates of the Institute of Paper Chemistry and was Plant Mgr. of Scott's Detroit Division. For years he was righthand man to Mr. Carleton at Detroit, before and after that mill was bought by Scott. Detroit, before a bought by Scott.





New Key Men at Salem, Ore.

Production Mgr. CECIL TAYLOR announces promotions and new supervisory personnel at Oregon Pulp & Paper Co., Salem, Ore.: GARNIE R. CRANOR, (top left) formerly Asst. Gen. Supt., has been promoted to Gen. Supt.; THEODORE HENRY (top right) new Paper Mill Supt.; HARVEY McLAUGHLIN (lower left), new Day Supervisor of Paper Machines, and GLENN BOLNER (lower right), Supervisor of Rewinders and Supercalenders. Supercalenders.





Named Top Execs at John Strange

John Strange
JOSEPH H. LEVANDOSKI (left) is the new Pres. of John Strange Paper Co., Menasha, Wis., mill which makes test liners, chip boards, and specialties. He has long been Exec. Vice Pres. and he succeeds JOHN STRANGE, who recently became President of Institute of Paper Chemistry. The latter now devotes full time to the Institute, where he had been Vice Pres. and Treasurer. J. M. LEVIN (right) is newly named Vice Pres. of John Strange Paper Co. He has been active in the company as Sales Mgr.





In Sales Posts, South and West

GERALD A. STONE (left) is new Dis-

GERALD A. STONE (left) is new District Mgr. for Link-Belt Co. at its new offices, 3109 Alexander St., Shreveport, La. He will serve north La., southern Ark. and part of Texas.

AUSTIN L. HAWK (right) is new Mgr., Western Sales District (Chicago) of Raybestos-Manhattan, Inc. He will supervise sales of industrial rubber products and mechanical packings. Raybestos also announced H. C. ABRAMS will be Regional Mgr., Western Sales, and ARTHUR ARGUEDAS, Supervisor, Belt Sales and Engr.





### **New Positions at KVP**

Realignment of duties in top positions in KVP Co., announced by Pres. Dwight L. Stocker, president.

Top row, I to r. E. NORVAL HUNTER has been elected to new office of First Vice President. He had been Vice Pres. in charge of Canadian Operations and will retain Canadian responsibilities. He came with KVP in 1944, to supervise construction of pulp mill at Espanola. W. DONALD BROWNELL, Sales Mgr. for past year, has been named a Vice President. Born in Kalamazoo, he went to Northwestern University followed by advertising experience in Chicago and banking in Kalamazoo.

ROBERT D. CAINE has been named

banking in Kalamazoo.

ROBERT D. CAINE has been named Vice President in charge of Mfg., taking over many duties of late John C. Wood. Mr. Caine was born in Ionia, Mich. and attended Michigan State College. He came with KVP in 1928.

Second row, I to r: MARSHALL RUTZ has been named Gen. Supt. of Kalamazoo mills. For the past year he had been Technical Assistant to the Sales Manager.

FRANK SOUTHON, former Mgr. of Industrial Relations, is now Asst. Gen. Sunt. Born in Kalamazoo, he attended Kalamazoo College, was with Sutherland Paper Corp. a year, was an Army captain and came with KVP in 1945.

PRESTON D. CARTER is Asst. Gen. Supt. up from Asst. to Mgr. of Mfg. Born in Detroit, went to Cornell and Harvard, in army was a Lt. Col. Joined KVP in



**Changes In Western Mills** 

Left to right: ROBLEY A. BUTLER, formerly Asst. Resident Mgr., CZ's Port Angeles operations, became Mgr. of Pulp Production at Crown's big Camas mill; WALTER C. JACOBY, Asst. Sulfite Mill Supt. at Camas since '52, goes to St. Helens, Ore., as Mgr. of Pulp Production; FORREST E. WILLIAMS, 31 years with Crown, promoted from Shift Foreman to Asst. Sulfite Mill Supt. at Camas; ROBERT G. STEWART, Tech. Supervisor, became Sulfite Mill Shift Foreman; JAMES E. McCOURT, recently named Asst. Tech. Supervisor, promoted again to Tech. Supervisor; LAUREN C. CIERSCH, Tech. Asst. to Paper Mill Supt.—Tissue End—since '51 at Camas, transfers to Crown's Los Angeles Div. as Supervisor of Paper Machine Production; REX MORRIS, Chemical Engineer, replaces him as Tech. Asst. to Paper Mill Supt.

# What is Management's Big 1956 Problem?

Consultant Ed McSweeney points finger at marketing and distribution. He offers ways to find solutions.

 What is the most important problem confronting pulp and paper management in 1956?

Edward McSweeney, vice president and treasurer, Perkins-Goodwin Co., a management consultant himself, and a speaker and writer on management subjects since 1933, says "it is marketing and distribution of products."

He suggests some ways for tackling this problem that would be quite new —a reversal of present practices—for many pulp and paper companies.

As has been done each year for several years now, Mr. McSweeney has been interviewed again by PULP & PAPER on his management ideas and philosophies. The interview follows—on the subject he himself chose as paramount in 1956:

MR. McSWEENEY: "Basically, the main efforts of all industry over the past ten years have been concentrated on increasing productive capacity and improving production and production controls. The result has been that in the pulp and paper industry we have had a lowering of unit costs, due to better mechanization and automation, an increase in the investment per worker, and we are probably beginning to approach the area of diminishing return in unit cost savings. The big problem right now has to do with the marketing and distribution of our products.

Q.: "Just what do you mean by marketing and distribution?"

MR. McSWEENEY: "Perhaps the time has come to broaden our perspective on marketing and distribution to embrace the whole complex of operations from the time we gather and assemble raw materials until our products reach the ultimate consumer. Applied to the pulp and paper field, this definition means handling, transportation, warehousing, and, too often, more transportation. In brief, while our emphasis has been placed on lowering unit costs of our product, the cost of moving a unit of our product has continued to rise and will undoubtedly continue to go up in the period ahead."

HOW TO COMBAT RISING COSTS

—Q.: "This is a serious out-of-line situation. What are we going to do about it?"

MR. McSWEENEY: "This is not a

ED McSWEENEY

"Much soulsearching and factfinding must still
be done. Operating men and sales
personnel must
help..."



new condition, nor is it unique to our industry. Many companies have a good understanding of the problem and are attempting to do something about it. The mergers and steps toward integration, whether toward raw materials or toward end product, are being made for marketing and distributing reasons as much as any other.

"As the producers of our lower priced large consumption items have discovered, every pulp and/or paper mill has a certain prime area where it either enjoys a competitive advantage because of the availability of fair priced raw material or because of its integration into a market. Oftentimes in adjoining areas it will not have an advantage but will be at least competitive. There are many other areas in the country where it cannot hope to move unless it has available extremely low cost transportation or builds up productivity in those areas.

"When you analyze many of our important companies you will find that they do not, for the reasons stated, attempt to market nationally.

"Assuming availability in sufficient supply of a raw material, and adequate facilities, the company closest to a market is going to get and keep the business. Usually transportation and warehousing costs will keep anybody else out, at least on a profitable basis."

Q.: "You mentioned warehousing as part of the distribution problem. Would you comment on this?"

MR. McSWEENEY: "Actually, warehousing may be the key to the whole problem. Companies in many fields are beginning to pool their warehouse facilities to cut down costs, and even pooling their shipments. Much more along this line must and will be Q.: "Do you know of any management check list for reducing costs in marketing and distributing pulp and paper?"

MR. McSWEENEY: "There are many check lists available, but I have yet to see one that is practical or applicable to our industry."

HOW TO ANALYZE YOUR PROB-LEM-Q.: "What steps should a manufacturer take to analyze his own marketing and distribution problem?" MR. McSWEENEY: "The only practical procedure for the average manu-

facturer of pulp and paper is to attempt to gather all the facts. The best way to start is by asking questions, preferably under group headings. For example, start by analyzing your 'present channels of distribution.' Do you sell direct, through sales agents, through merchants, or specialists?

"Next, appraise the geographic factors. Think of your market as a series of geographic areas. The prime areas are Pacific, Mountain, East North Central, South Ttlantic, Middle Atlantic, West South Central, New England and West North Central. This appraisal will then go on into the economics of just what areas show up as profitable, what areas show up as competitive. and what areas you must charge off as development. This appraisal of the geographic areas should include a detailed cost analysis and economic appraisal of each of your lines through each of the channels of distribution.

"Next step is a survey of the types of transportation you are now using, including freight, truck, and water, if available.

"You will find that these basic questions will lead to a lot of other questions as to whether you are actually doing a selling job or simply taking orders because of a current market condition.

"Similar studies in other industries, particularly the automobile industry, have led to sub-assembling and warehousing. It is possible that a study of this kind, as has been the case with a number of our leading producers, will lead to acquisitions, mergers, or integration into end product."

Q.: "Is there anything being done on

an organized basis to resolve distribution problems?"

MR. McSWEENEY: "I don't want to minimize the thought and effort that many top management people have been giving to this problem, but there is still much soul-searching and factfinding to be done. Top management cannot solve this problem alone, and must enlist the help of all operating and sales personnel, and sales agents.

"One interesting aspect of our newfound abilities to pulp hardwoods for many end uses will probably be a natural but expensive conclusion that additional manufacturing facilities must be created where available raw materials can be integrated into a prime market.

"Unfortunately, the New Dealers and Socializers have done a vicious job on publicizing the higher costs of distribution. One of the most recent efforts to find out what can be done to lower costs of distribution was the organization this year of the Economics of Distribution Foundation, Inc. It's a little too early to appraise whether this organization will attempt to do what it states in its plan of organization-'an impartial, objective, community-minded organization sponsored by management and labor to study and devise plans for meeting this problem (of high costs of distribution)'-or whether it will follow the New Deal party line. At least its stated objectives are laudable.

scale, aided by the development of instruments, some of which employ atomic radiation techniques.

The industry's Research Association is engaged on long-term studies concerned with the fundamentals of papermaking. An example is the investigation of the beating effect, in which connection the Research Association has evolved techniques employing the electron microscope, by means of which there is obtained a valuable spatial impression of the surface of the fiber and of the relation of the disintegrated material to the fiber as a whole.

On the organizational side one problem which will have to be faced in 1956 is the effects of government legislation on so-called monopoly practices. The question of price fixing and to what extent it is against the public interest, will certainly be raised during 1956.

# Likes North American Pulp

Britain now looks west—hails pulp from America as stabilizer. Outlook for 1956 is bright.

By E. F. J. DEAN

London Correspondent, Pulp & Paper

• The outlook for the British paper and board industry in 1956 is one of continued expansion. When the final figures are issued for 1955 it is confidently expected that a new production record will have been achieved of not far short of 3% million tons.

All sections have shared in the expansion. In the peak production months of February and March paper production was 23% in advance of the pre-war level and board production showed a greater rate of increase, reaching 66% over the prewar rate. The development of packaging accounts for the faster progress of board output and this trend will continue in 1956.

Large capital investment plans, involving the installation of new machines and modernization of old ones, have been announced. These are long-term developments which will take four or five years to complete, but some new capacity will operate in 1956 and, unless Britain runs into serious economic trouble, the outlook is for another record-breaking production year.

MORE PULP IMPORTS—It is also reasonably certain that 1956 will see a further extension of transatlantic trade in woodpulp. The British paper industry now looks to Canadian and American pulp to supplement supplies from the traditional North European markets and to help sustain its increased rate of production.

Figures for the first ten months of

1955 are illuminating. In this period pulp shipments from the United States reached 147,284 tons, as compared with 74,003 tons in the corresponding period last year; Canada sent 227,956 tons, compared with 187,341 tons.

These supplies from North America are considered a stabilizing factor in the market, as the moderate price policy of transatlantic suppliers has imposed competitive conditions on the pulp suppliers of Northern Europe.

CURRENCY ALLOCATED TO PULP BUYERS—The system of overall currency allocation by the Board of Trade to pulp consumers in the United Kingdom is to continue in the first half of 1956. Traders had hoped that this remaining vestige of wartime control would be swept away by the end of the year, but Britain's precarious balance-of-payments position has imposed a cautious approach to further trade liberalization.

The regulations have been framed and administered with flexibility, however, and the allocation of currency for raw material imports has proved adequate to meet the paper industry's expanding needs. In fact British mills have been able substantially to replenish inventories. Stocks at the end of the third quarter of 1955 amounted to 447,000 tons, against 325,900 tons at second-quarter end and 330,900 tons at the end of the third quarter in 1954.

The pace of technical improvement in the British industry continues to accelerate. Closer quality control is being introduced on an increasing W. J. F. (BUCK)
FRANCIS — promoted to Vice
Pres. in Charge of
Sales. American
Potash & Chemical
Corp., Mfrs. of
Trona salt cake and
other chemicals for
pulp and paper. He
headquarters in
Los Angeles.



## Buck Francis Becomes American Potash Sales Chief

W. J. F. Francis has been promoted to vice president in charge of sales, American Potash & Chemical Corp., and he is succeeded as general sales manager, Western, by William M. Clines. Ed Kolb continues as general sales manager, Eastern.

American Potash recently acquired 100% ownership of Western Electrochemical Co., Henderson, Nev. Besides its Trona salt cake plant, American Potash has another chemical plant in California and one in Texas. Mr. Francis is a 1936 graduate of U. of California and has a wide acquaint-anceship in the pulp and paper field.

## Burgess Pigment Co. Doubles Plant Facilities

Burgess Pigment Co., Sandersville, Ga., reports new plant facilities and equipment, now in full operation, have increased its productive capacity by 100%.

Burgess is offering for the first time Iceberg K, newly improved whitening agent for use in the paper and o'her industries, particularly as an extender for titanium dioxide.

# New Way to Ship Woodpulp

In "noodle" form, it will go over 1,000 miles by sea from pulp mill to paper mill. Others make short hauls.

An unusual method of pulp transportation by sea will be introduced by Crown Zellerbach and National Bulk Carriers when the 500-ton sulfate pulp mill of Elk Falls Co., C-Z subsidiary on Vancouver Island, B.C., goes in to production next summer.

The pulp produced by Elk Falls Co. will be shipped in "noodle" or wet form from Duncan Bay, site of the mill, near the mouth of Campbell River, to Antioch, Calif., where Crown Zellerbach's new kraft mill will convert it into paper, a distance of 1,000 miles.

A tank carrier specially designed for this unprecedented project is being built at Kure Shipyard Division, National Bulk Carriers, Inc., Kure, Japan,

HOW PULP IS LOADED ON TANKER—The pulp will be loaded by conveyor at a consistency of about 38 to 40%. A special 6-ft.-wide belt will carry the pulp from the mill at about 900 tons an hour and drop it into the hold, where mechanical spreaders will operate so as to effect even distribution. It is expected that an entire cargo will be loaded in about 12 hours.

Ordinarily, pulp exported for such a distance is shipped in dry or bailed form. It must then be reconverted to wet pulp at the paper mills of U.S. customers. It was desired to ship Elk Falls pulp in wet form to avoid any possibility of degradation resulting from intermediate drying processes.

Recently there have been a couple other instances of "noodle pulp" shipment on rivers in the West and Texas—from one mill to another, but for much shorter distances.

Several mills in the East ship pulp by pipeline. Fraser Companies and Minnesota & Ontario pipe pulp across the Canadian border from mill to mill, only short distances. There is a somewhat similar installation at Sault Ste Marie, Ont., and pulp pipelines of a few miles in operation in New York state by Consolidated Water Power & Paper in Wisconsin. But for a haul of more than 1,000 miles from Duncan Bay, pipelines were out; so were rail shipments because of the cost.

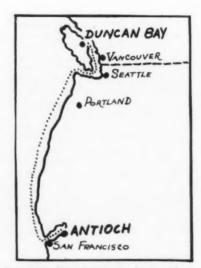
LEARNED LESSONS FROM SUGAR CARGOES—While studying the problem, engineers investigated handling of other cargoes such as salt, and particularly, unloading of sugar at Crockett, Calif., for American-Hawaiian Sugar Co. Modifying the sugar technique, a satisfactory method was devised of slushing out wet pulp by hydraulic pump from the tanks of the ship.

Not all Elk Falls pulp will be exported to California. Much of it will be used for a new paper machine at Duncan Bay to produce newsprint and kraft paper, daily capacity, 175 tons.

The "noodle pulp" carrier will be 560 ft. long, with an 84-ft. beam, depth of 41 ft. Power plant will consist of an 8,500 hp steam turbine. It is understood that the ship will be operated by Universe Tankships, Inc., of New York City, a subsidiary of National Bulk Carriers, headed by D. K. Ludwig.

MAY SOLVE A HIGH COST PROB-LEM—In a brief to the Sloan Forestry Commission, the British Columbia forest industry declared:

"If new and radical methods were



"NOODLE" ROUTE. Dotted line shows water route which will be used by Crown Zellerbach to ship "noodle" pulp from Duncan Bay, British Columbia to new kraft mill at Antioch, Calif.

developed in transportation it could be that the economics of the forest would change considerably. At present, pulp manufactured in British Columbia is dried, shipped to plants in the U.S. and made into wet pulp all over again. If it were possible to develop means of transporting wet pulp by pipeline to cheap barge transportation and the wet pulp transported to converting plants, a considerable economic advantage could be gained."

# How Pulp is Pressed Dry for Transport

With start-up of the world's largest Yankee type tissue machine at Crown Z's St. Helens, Ore. kraft mill this past year, the firm's big Camas, Wash. mill began providing groundwood for its furnish.

Facilities for processing, handling and loading the pulp were installed at Camas. About 25 tons of ground-wood per day is trucked 40 miles down the Columbia River to St. Helens, according to J. M. Burch, groundwood mill superintendent at Camas. All this groundwood is mechanically dewatered and hauled in bulk except for a small amount going in wet lap form to serve as emergency reserve at the receiving mill.

At Camas, this bulk pulp is processed through a Jackson & Church Co. Zenith continuous pulp press. A transport-loading system delivers the dewatered pulp to semi-trailers.

Deckered groundwood stock, diverted from the regular line leading to machine storage chests ahead of beaters, arrives at the dewatering press at about 5% consistency. Caked

pulp leaves the press at around 40% consistency and is fan-transported to an overhead loading area and automatically loaded.

HOW PRESS OPERATES – Stock, carried to the pulp press under pressure of 4 to 7 psi in stainless steel piping, enters the feedhead within this pressure range. A vertical screw arrangement carries stock down through a perforated cylinder to the bottom of the press unit where a floating cone outlet (also perforated) automatically maintains pressure on the pulp until discharged from the machine in "dry cake" form.

Three jacks, operated by a hydraulic system carrying 900-1200 psi pressure, support the floating cone. As the volume of pulp from the press diminishes, the cone raises, thus reducing the effective discharge aperture. Larger volume discharge backs the cone away. The arrangement makes for consistent pressure at point of discharge, regardless of output volume.

COLUMBIA RIVER
PAPER MILLS

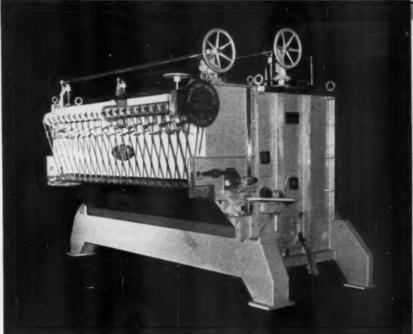
Vancouver, Washington

installs another

VALLEY

...on no. 3 machine





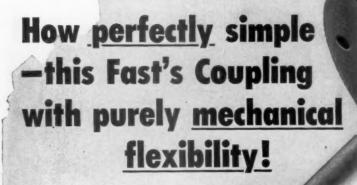
it's INLET and
HEADBOX by



for detailed information write

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Canadian Representatives: Pulp & Paper Mill Accessories Ltd., P.O. Box 903, Station "O" Montreal 9, Quebec



A hub is keyed
 on each shaft. Hubs, are splined at
 maximum distance from shaft ends.

For 35 years the most positive, dependable means of coupling ma-

- 2. Floating sleeves surround hubs. Sleeves are splined to engage hub splines.
- Sleeves compensate for shaft misalignment by assuming neutral position between two hubs.
- 4. Because of distance from shaft end, any misalignment between splines is more fraction of same misalignment between shafts.

chines to their power source . . .

Fast's Couplings have no parts subject to repeated bending, tension or compression. Because there is no metal-to-metal contact, there is no wear—in fact,

many Fast's Couplings in use for over 30 years show no signs of wear when disassembled! No leather, plastic or rubber oil seals. Lubricant film distributes pressure over a considerable area, diminishing localized stress at pressure points on the load-carrying teeth. Perfectly simple? Yes... and foolproof!

For coupling catalog, technical advice or assistance from Koppers field engineers, write: KOPPERS COMPANY, INC., Fast's Coupling Dept., 2702 Scott Street, Baltimore 3, Maryland.

THE ORIGINAL

5. Sleeves carried on bearing rings,

spline faces (the load-carrying surfaces)

no crank action, no vibration

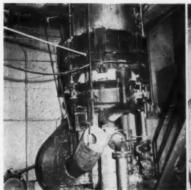
6. Lubricant is centrifugally forced into spaces between

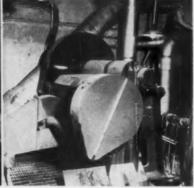
engaged splines, forming a film



FAST'S Couplings

METAL PRODUCTS DIVISION • KOPPERS COMPANY, INC. • BALTIMORE 3, MD. This Koppers Division also supplies industry with American Hammered Industrial Piston and Sealing Rings, Industrial Gas Cleaning Apparatus, Aeromaster Fans.





WHERE PULP IS DEWATERED FOR TRANSPORT—(Left) Dewatering ground-wood at CZ Camas mill for transport to St. Helens Division. Jackson & Church Zenith continuous press discharging 40% consistency pulp at 25 tons per day to 30-in. Sturtevant materials-handling fan for delivery to trailer-loading station, 150 ft. away. (Right) One stainless steel pipe, at right, delivers 5% stock to Jackson & Church press and the other one carries pulp from press to loader.

Mr. Burch finds that the press capacity is somewhat greater than the current 25-ton daily average output, but the dry-pulp loading system is about up to capacity.

HOW DRY PULP IS LOADED—The dry pulp discharges from the press to a 30-in. diameter (Sturtevant) heavy duty materials-handling fan, V-belt driven by a 30 hp motor. This fan—of 14-in. static head, 1920 rpm, 6300 cfpm—delivers air-transported pulp through 12-in. stainless steel piping to a cyclone at the pulp loading station 150 ft. away. There the air dissipates and the pulp flows by grav-

ity to either of two conveyors dis-

charging directly to awaiting semi-

Power for the J&C dewatering press is provided by a 25 hp 550 volt 1800 rpm Allis-Chalmers induction motor through a V-belt drive. The press screw rotates at 7 rpm. Water from the pressing operation is returned to the groundwood white water system by a 150 gpm Goulds pump driven by a 2 hp motor.

#### Stone Container Expansion

Stone Container Corp. has launched a \$500,000 expansion program at its Mobile paperboard mill division, according to J. R. Boykin, general manager. First new equipment put into operation is a 1,200 gal. Sveen-Pedersen flotation saveall.



#### Russians Visit Pulp Mills-Now One of Them is Being "Purged"

Here is a touring Russian delegation at Weyerhaeuser operations, Everett, Wash. Second from left is M. VLASOV, head of Soviet Academy of Architecture, who since made front pages of newspapers—he is being "purged" although he now recants statements that he liked rococo architecture, which shocked the Kremlin. These men viewed Rice Barton machine and operations in Weyerhaeuser market kraft pulp mill and sawmills. They ordered one of Prest-O-Log machines, which makes the wood sawdust "logs" for fireplaces, invented by Chief Engineer Robert T. Bowling, of Potlatch Forests, Inc. Prest-O-Log is being examined in the picture by Sawmill Plant Supt. AL SMITH (left) and I. K. KOZUILIA, head of Russian delegation, which was primarily interested in housing and housing materials on their tour.



"New paper applications will make many of today's packages obsolete. Strides in chemistry and new manufacturing techniques, coupled with automation in conversion, will open potentialities that make future tonnage of paper almost beyond reckoning."—FRED MEEDSEN, vice president, Union Bag & Paper Corp.

"I've talked with many businessmen. The consensus is that we will produce 3% to 5% more goods and services in 1956. We must have taxes that would not drain off savings that would go into investment. Wage increases are sound when they do not exceed the increase in productivity. The greatest tragedy would be if labor's craving for greater security would destroy belief in work of free men and we lost everything."—COLA G. PARKER, president, National Assn. of Mfrs., former chairman and pres. of Kimberly-Clark.

"Chances are bright for another record year. Never underestimate the longhaul potential of our dynamic economy. It can level off, then generate new force for another climb."—SIN-CLAIR WEEKS, U. S. Secretary of Commerce.

"One's success in carrying out any human endeavor depends on his ability to get along with and retain the confidence of God's greatest creation —people."—DAVID CLARK EVER-EST, late chairman of Marathon Corp. and Wausau Paper Mills.

"We all have many jobs to do. One of the most important and most difficult is to get along with each other."— A. E. HAROLD FAIR, president, Brown Co.

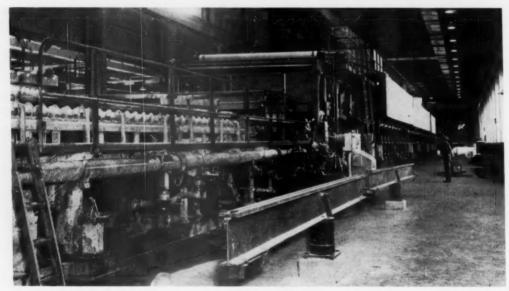
"It might be necessary to find some way to enlarge production of newsprint through Federal subsidy."—SAMUEL N. FRIEDEL, Dem., member of Congress, Maryland.

"This will be a record year for packaging. Folding paper box industry volume will increase 10%. There will be more self-service stores than ever before. There will be 2500 new supermarkets. A variety chain plans 1,000 self-service units. Half the drugstores will be partly or wholly self-service. Also, many major department stores."

NORMAN F. GREENWAY, president, Folding Paper Box Assn.



IN THIS MILL—A LOT OF CHANGES SINCE 1941. New air view of St. Regis' Kraft Center near Pensacola reveals growth and diversification. In 15 years it has multiplied 10 times in size, in pulp and paper output.



NO. 1 MACHINE IN NO. 1 MILL. Rebuilt Black-Clawson Fourdrinier now makes bleached specialties, has new Valley headbox, longer wire, new presses, breaker stack, etc.

# Pensacola Up-to-Date - 10 Times Bigger

St. Regis now has genuine Kraft Center, fully integrated. How it added power and takes care of new power units. • Advance of the Kraft Center near Pensacola, Fla., as measured by improvement of production facilities and other changes integrating it more fully into the St. Regis Paper Co.'s operations, is of challenging interest to the industry. Effected in recent times have been the establishment of a multiwall bag research laboratory, transfer of polyethylene and other converting operations from Northern St. Regis mills to this site, and product changes in the paper and paperboard field.

Cantonment, 17 miles out of Pensacola, its name identified with World War I, was the mill site selected by the late James H. Allen for his original 75 ton per day mill. It went into production in 1941 as Florida Pulp & Paper Co. It is now ten times that size and with diversified converting processes added.

In 1947 Mr. Allen merged his enterprise with St. Regis Paper Co. He proclaimed Roy K. Ferguson, head of that company, as eminently suited to carry the project to its ultimate destiny. "Florida" became No. 1 mill, and a new "Alabama" mill became No. 2, backed by a major bag plant. When the second unit began production in 1948, the operations were named, St. Regis' Kraft Center.

HOW KRAFT CENTER FUL-FILLED ITS TITLE—The converting end has increased in importance; woodlands have been expanded and their values increased by management, including a full blown pine seedling nursery. Incidentally, many acres in West Florida that had been rather thinly clad have bloomed with young pine, resulting from a decade's effort by St. Regis and other companies.

Reviewing of products, the market, and capabilities of all company mills by directors in 1953 resulted in reallocation of responsibilities and with it a decision to utilize the smaller paper machines in Kraft Center's No. 1 mill for production of bleached specialties. Assignment of these products to the mill brought with it a decision to bring its facilities up-to-date in a program calling for expenditure of \$2,300,000.

Original equipment of No. 1 mill included a 144 in, trim Black-Clawson Fourdrinier to which had been added during the war years, under title of "Santa Rosa Paper Corp.," a 92 in, trim Beloit cylinder machine

from the ill-fated New Iberia, La., rice straw-to-paper venture.

Simultaneously, many other Kraft Center improvements were made, all completed by May 1955, when Tidewater Construction Co., general contractors, withdrew forces from the location.

#### NEW PROCESSES IN PULP MILL

—These include displacement of a diffuser installation and supplementation of an old washer with three new Improved Machinery, Inc., 8x12 brown stock washers. Rated washing capacity was elevated from approximately 225 tons to 375 tons daily. Comparison of modern vs. older equipment is revealed by the two washer units. If the older washer is pulled over 6,000 lbs, its performance falters yet the new unit has reached 20,000 lbs.

Three Lindblad screens were installed.

Details of the new ultra-modern bleach plant were reported by PULP & PAPER in issue of Jan. 1955.

CHANGES MADE TO PRODUCE SPECIALTIES-Paper mill improvements included complete rebuilding of the original machine for making of bleached specialties instead of unbleached kraft. This involved a new Valley headbox, lengthening of the wire from 90 to 117 ft. to provide better forming, new inverse second press, crownless smoothing press, and crownless breaker stack. Twenty-three high pressure dryer rolls were added ahead of the size press. Then a new size press was installed and 10 low pressure dryer rolls added after the size press. Three high pressure dryers with Mason-Neilan automatic control were installed between No. 1 and No. 2 calenders. Drying capacity was increased 30%

Auxiliary equipment going in with machine improvements included a 14ft. Shartle Hydrapulper, a battery of Bird Dirtecs for cleaning stock, new Nash vacuum pumps, a higher capacity (15,000 gpm) Warren fan pump and Warren mixing pump. Stainless steel piping was installed. As a result of these improvements the machine has produced up to 150 tons per day on bleached paper and board. This addition comes from weight of stock rather than lineal feet run.

No. 2 machine was provided with new calender rolls and a Black Clawson cutter. A new Langston winder permits making of rolls to 72-in. diameter. Improvement raised machine production 10 tons, elevating it to 80 tons per day. Of importance is that it makes a finer grade of bleached cylinder board.

Flexibility of operation at Kraft Center has been provided by construction of three 36 ft. diameter 60 ft. high Stebbins Engineering & Mfg. Co. tile high density storage tanks adjoining No. 2 mill. Of 500 ton total capacity, this storage will permit paper mill operation for a day while the pulp mill is down.

This storage is also connected with No. 1 pulp mill.

HOW POWER SUPPLY WAS AUG-MENTED-Keynote to No. 1 mill improvement is additional power, adequate for now and the immedi-





WILLARD E. HAHN (left), is Vice President of St. Regis Paper Co. and Resident General Mgr. of its Kraft Center 17 mi. north of Pensacola.

U. J. WESTBROOK (right), who makes his headquarters at Pensacola, is in charge of all Pulp Mill operations of all St. Regis mills from Florida to Washington State, from Maine to the new mill being built in Alberta. He has had 27 years experience in Southern kraft mills.



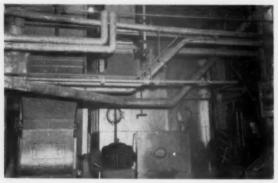
FINEST EQUIPMENT SERVES ONLY AS TOOL FOR MEN WHO RUN IT—These are a group of topside key men for Kraft Center near Pensacola (left to right): WINSLOW B. MILLS, Gen. Supt. of Pulp and Paper Mills; DAVE YOUNG, his Assistant; ANDREW DOWNEY, Paper Mill Supt., No. 1 Mill; GEORGE MEEHAN, Asst. Supt., No. 1 Mill; DAVE JONES, Paper Mill Supt., No. 2 Mill; LARRY CLAPP, Chief Chemist, and A. R. MAJOR, Chief Engineer.



BARK HANDLING SIMPLIFIED AT PENSACOLA. Trucks back up this concrete incline, dump their load into a pit.



STORAGE TO RUN ONE MILL FOR A DAY. Three 35 x 60 ft. Stebbins tile pulp storage tanks at Mill No. 2 store 500 tons.



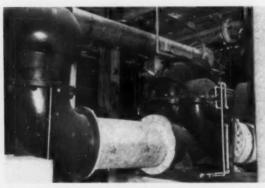
VIEW OF NEW BOILER. Glimpse at ground level of 143M lbs./hr. natural gas burning Babcock & Wilcox boiler.



WHERE BROWN STOCK IS WASHED. Three Impco washers have handled up to 20,000 lbs./hr. Control instruments at left.



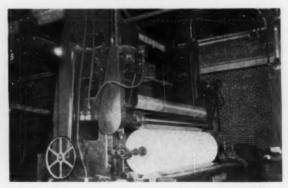
ADDED WITH BLEACHING. When No. 1 mill was switched to 100% bleached products, these Bird Dirtecs were added.



SERVING NEW MACHINE. New Warren fan pump for No. 1 machine has a Beloit stream flow valve.



DRYER DRAINAGE CONTROLS by Mason-Neilan are centered in this board alongside No. 1 machine.



ROLLS COME OUT HERE. Output side of new 72-in. roll size Langston winder, added to No. 2 machine in No. 1 mill.

ate future. Newly installed in the past year was an 143M lbs./hr. Babcock & Wilcox natural gas burning boiler of 400 lbs., 650°F rating. Also new is a Westinghouse 6250 kw double extraction (65-165) turbogenerator.

With elimination of one old Badenhausen bark burning low pressure boiler, the power plant now has a similar Badenhausen unit; an 80M lbs./hr. Babcock & Wilcox gas burning power boiler; and two Babcock & Wilcox recovery boilers, respectively of 40M and 45M lbs./hr. capacity; and the new unit.

Electrical energy is generated with the new unit; a 4000 kw Westinghouse (50-150 lbs.) extraction unit; a 2000 kw Allis-Chalmer straight condenser unit; and a 1000 kw General Electric straight condensing unit rebuilt for standby service so, when the mill is down, maintenance work can be performed on the major power

suppliers.

The Allis-Chalmers generator, being low pressure, receives its steam from extraction from the new turbo-generator and from the old Badenhausen boiler. The Allis-Chalmers has a water rate of 19 lbs. and requires about 40M lbs./hr. The General Electric unit has a water rate of 16 lbs./hr.

No. 2 (cylinder) machine is driven by a 300 hp Westinghouse turbine and its 45 lbs. back pressure exhaust is used for dryers on the same ma-

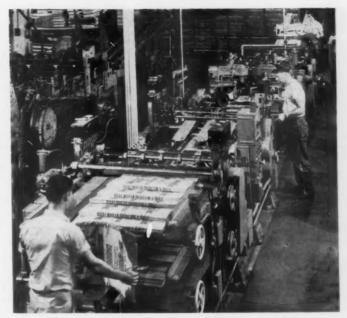
chine.

No. 1 machine improvements include Mason-Neilan dryer drainage control and automatic makeup control for steam to dryers according to moisture in paper.

HOW BOILERS ARE CHECKED-

Regular 8th day check-up is part of boiler house routine and every other year there is a complete inspection with conditioning of boilers and turbines. Boilers are chemically cleaned with Nalco chemicals, for maintaining maximum efficiency. The plant also has a Turner gauge. Tubes at the header are taken down to bright metal and as the gauge is put through the tube, revolving inside, it will register scale as low as 2/1000-in. as it passes over it.

Originally without the present bark burning arrangement, the method used was to truck and dump bark into a hopper elevator alongside the boiler house, then to hand feed it into furnace. Replacing this is a concrete incline up which the truck backs, dumping bark into a pit having three pair of 11 in. 45° hard-faced screws that move the bark into a hopper feeding a 28-in. Goodyear conveyor belt. At the top of the furnace room the bark is dumped into a hopper with two ducts feeding from above



NEW HIGH SPEED BOTTOMER FOR MULTIWALL BAGS—This machine at Pensacola is faster than previous equipment, can be used on bags of different sizes and types, and requires less set-up time. Was designed by St. Regis Bag Engineering Development Dept. and built by its Multiwall Packaging Division plant at East Providence, R. I.

into water-cooled furnace grate equipped fire box. Hand labor is eliminated and also the 3-shift elevator operator.

Since the barkers operate only 16 hours daily the boiler is shifted to natural gas the balance of the day.

Bark burning generation of up to 35,000 pph of steam effects a saving of the cost of equivalent quantities of natural gas.

INTEREST IN HARDWOOD CHIPS

-Chips purchased from lumber mills are used by No. 2 mill. St. Regis also has a program to produce chips from sawmill waste. Since the pine lumber manufacturers also produce hardwood there is much interest in the spread of hardwood pulping which creates a potential market for those chips.

## Mike McMahon, Widely Known Salesman, Dies

Cormac J. "Mike" McMahon, 70, one of the best known and most popular "peddlers" of the industry for 28 years, died unexpectedly Dec. 26. He had retired as representative of Appleton Woolen Mills and Cabble Wire Co. in the north central states last spring. There were colorful stories about him. He told how he won one account "for life" when he just started out, by frankly admitting his early lack of technical knowledge, which pleased his customer.

He and his wife, Mary, who also

has many industry friends, had left their Appleton, Wis., home and were visiting their daughter and son-in-law, Mr. and Mrs. P. R. O'Malley, in Sumter, S.C. for the Christmas holidays at the time of Mr. McMahon's death. He had two baby grandsons, children of the O'Malleys, Pat and Mike, the latter born shortly before Mr. McMahon's passing.

#### **Albert Edwards Retires**

Albert H. Edwards, mechanical engineer, formerly vice president and a director of National Container Corp., has announced his retirement from the firm.

He was active in administration of National Container for 24 years and will continue his interests in human and public relations in Jacksonville, Florida. He is a director of the Community Chest of Jacksonville and Duval County and a director of the Community Service Planning Council.

#### 23rd Year of Paper School

Crown Zellerbach Paper School, now in its 23rd year at Camas, Wash., has an enrollment of 318 students, all employes from West Linn, St. Helens and Camas mills, Molalla woods operations, plants and offices in Portland and North Portland, Ore. Heading the school is Dean A. Miles Cady, assistant superintendent-general maintenance, Camas.

# Crossett Works 3,380,000 Safe Hours

Leading all other Southern mills in safety records, the Crossett Paper Mills of Crossett, Ark. had gone a total of 3,380,461 hours and 723 days without an accident before a November accident ended their record. But for three quarters of 1955, it led all Southern mills with a perfect record for more than 1,000,000 man-hours. Buckeye Cotton Oil Co., at Memphis, was second with 992,388 man hours and no lost time accidents and two other mills, National Container Corp. of Virginia and Hammond Bag & Paper Co. of W. Va., also racked up perfect records.



SAFETY CONSCIOUSNESS at Crossett is directed by R. E. BELL (left), Safety Director, and JIM PINKERTON Jr. (right), Safety Supervisor.

R. E. Bell, Crossett safety director, working closely with Jim Pinkerton, Jr., who has been safety supervisor since he replaced retiring C. D. McCan on Feb. 1, 1955, says he feels the record can be attributed to the fact that Crossett considers a weak spot in safety as important as a weak spot in production.

When the firm reaches each million hours without lost time accident, everyone is presented a ham. The mill is also divided into five departments and safety contests are held between hese divisions. The winning department is treated to a barbeque. Last year the entire mill was feted at the free feed. Hams have been given to the entire staff five times since Nov. 1952.

RECORD ENDED NOV. 11—Crossett's excellent safety record was shattered Nov. 11 when a third hand's left hand was caught between two squeeze rolls in the new hardwood board mill. The machine had been in operation only 11 days. November seems a jinx month for the mill. Previously, Crossett had gone from Nov. 15, 1952 until Nov. 16, 1953—almost a year to the day—without accident. A total of 1,600,000 man hours was rung up that time before an accident.

Crossett also has a supervised safety

and employe training course which accents safety—another reason the mill has been able to boast its fine record.

Nine mills in all showed a frequency rate of less than two. They were Scott Paper's Hollingsworth and Whitney Division (.58), International Paper's Moss Point mill (1.12), Rayonier Inc at Fernandina Beach, Fla. (1.23), Continental Can at Hopewell, Va. (1.46), and Champion Paper & Fibre Co. at Pasadena, Tex. (1.54.)

Highest frequency rating reported was by a mill which suffered 42 disabling injuries in 1,735,730 hours a rating of 24.14.

## Plans Set For Biggest Safety Meeting in West

The unique Pacific Coast labormanagement safety conferences, which have given a tremendous impetus to accident prevention in 39 mills will mark their next milestone at a 10th anniversary meeting at the Olympic Hotel, Seattle, Mar. 7-9. Pacific Coast Association of Pulp & Paper Manufacturers and labor alike can examine this record with pride:

Year	No. Mills	Assowide Freq. Rate	
1945	25	38.99	
1946	25	33.34	
1947	31	25.86	
1948	34	14.83	
1949	36	12.07	
1950	36	8.88	
1951	36	9.22	
1952	36	8.29	

1953	38 ·	7.96
1954	37	6.31
1955	39	6.20
(to Nov 30	1)	

HOW IT ALL STARTED—Out of a paperboard mill union meeting in Stockton, Calif., came the original idea for the combined management-labor attack on accident—the first such safety conferences in any industry in which both management and labor unions sent delegates with equal rights and responsibilities. News of its success has spread into the East and South.

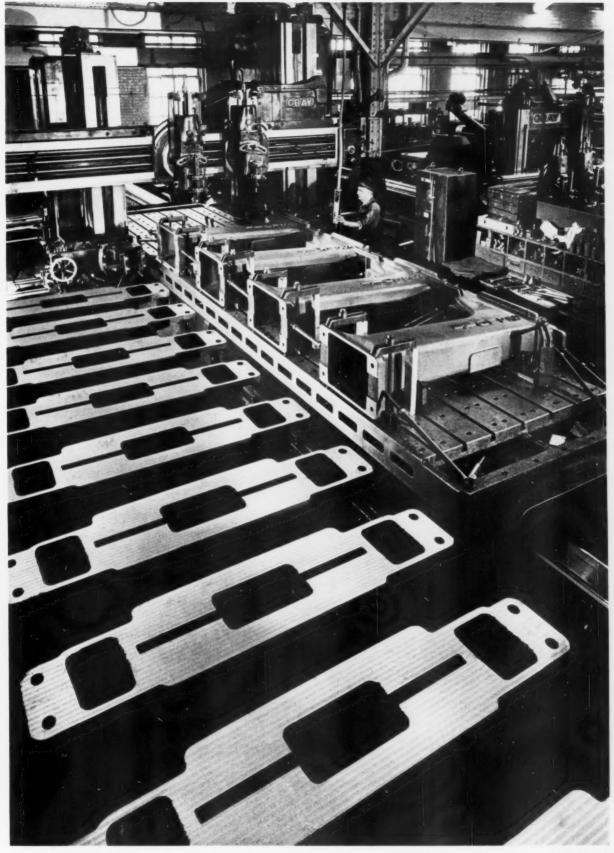
Historically, each state conference has had two co-chairmen, one from labor, one from management. This year's tri-state conference will have co-chairmen for each of the three days: 1st day: John Sherman—labor, Robert Gilmore—management, Wash; 2nd day: Al Brown—labor, Nick Chicherin—management, Ore.; 3rd day: Ivor Isaacson—labor, Gene Ridings—management, Calif.

Presidents John P. Burke of Pulp, Sulfite and Paper Mill Workers and Paul Phillips of the Paper Makers, plan to take part. Management's speakers include S. J. Robinson, vice pres. and gen. mgr., Publishers' Paper, Oregon City; Harrison Dunning, vice pres., Scott Paper Co.; and Ned H. Dearborn, pres., National Safety Council. Billy Welsh, retired CZ public relations director, will be banquet toastmaster.

The association every month publishes the latest frequency rates for member mills. This is culminated in annual awards for each state and the



LINING UP FIRST TRI-STATE SAFETY MEETING IN WEST. This is planning committee for first Joint Labor-Management Conference for all 39 member mills at Seattle, Wash., Mar. 7-9. Heretofore there have been separate state meetings. In dark shirt at right is SID GRIMES, Gen. Chairman and Coast Mfrs. Assn. Secy. Others seated clockwise (to left) from Mr. Grimes are BILL GORBUTT, Scott; KEN LARKIN, Weyerhaeuser; BOB MEHSHAUSEN, Container Corp.; JOHN TEEVIN, Paper Makers; BOB HETHERINGTON, Pulp, Sulfite & Paper Mill Workers; AL BROWN, PM; JOHN EYER, PSPMW; JOHN SHERMAN, PSPMW; IVOR ISAAC-SON, PSPMW; OSCAR ROBERTSON, PM; GENE RIDINGS, Fibreboard; L. E. TEVENSON, Fibreboard; and C. G. GUINN, Longview Fibre. (Standing in rear, I to r) BOB GILMORE, Rayonier; R. W. HESS, Coast Mfrs.; GEO. La HAUSEN, CZ; BILL ZIMMERMAN, Coast Mfrs.; and JACK ROBERTSON, CZ, Camas.



## PRODUCTION SETUP

Pictured on the preceding page is a section of the planer department at Beloit Iron Works,

Beloit, Wisconsin. The department features a variety of tools designed to handle the most difficult of planing and shaping operations. The adjustable, convertible open-side planer shown was especially designed to meet Beloit's exacting machining requirements and to accommodate items of unusual width. The 24-foot stroke of this planer makes a variety of machining setups possible for increased efficiency and production.

your partner in papermaking BELOIT



WHEN YOU BUY BELOIT ... YOU BUY MORE THAN A MACHINE!



LEADERS AT STREAM SESSION. At National Council for Stream Improvement session in Portland, Ore. (I to r) National Chairman GEORGE E. DYKE, Pres. of Robert Gair Co., Inc. GEORGE HOLT, Res. Mgr. Rayonier Inc., Hoquiam, Wash., Coast Chairman, FRED WELEBER, Chief Chemist, Publishers' Paper Co., new Chairman, and GEORGE H. GALLAWAY, Res. Mgr., CZ, Camas, Vice Chairman.

# \$75 Million for Effluent Abatement

Significant statistic as "Paper Week" opens in New York is the National Council for Stream Improvement's report that \$75 million has been invested by the industry for waste treatment plants during past 10 years.

Mills in Oregon and Washington alone expended \$15 million in this field and have reduced pollution by more than 60% while at the same time almost doubling pulp production, it was brought out at a recent West Coast meeting of National Council for Stream Improvement.

George A. Holt, resident manager, Rayonier Inc., Hoquiam, Wash. and chairman of the Council's West Coast sect., said it is doubtful if any other industry in the nation has made expenditures of equal magnitude for effluent abatement, though metal works, cheese and dairy plants and other factories also similarly use streams.

Dr. Herman R. Amberg, Council's West Coast resident engineer, cited measures taken by the industry to abate effluent savealls for fiber, barker water screens, re-using process water; improving recovery, storage lagoons for low stream periods, pipe lines which diffuse disposable materials, Puget Pulp's alcohol plant, Crown Z's Orzan plant, and Weyerhaeuser's MgO sulfite plant.

Dr. Amberg, reporting on research at Oregon State College, disclosed that high-protein animal feed from spent sulfite liquor appears to hold remarkable possibilities for the in-

Prof. R. E. Dimick and associates reported studies at Oregon State College show minimal oxygen requirements of salmonoid fish are not materially affected by abnormally high concentrations—as high as 1000 ppm (10% solids)—of spent sulfite liquor.

Dr. W. W. Moyer, Crown Zellerbach, was named chairman of a technical committee to carry on biological oxidation and stream studies.

# Trials of Cant Saws

• How Crown Zellerbach's converting department at the Camas, Wash., has improved the action of cant saws in cutting dry crepe toilet tissue was in the transfer of the transfe

Why do converters want to use cant saws? To improve appearance of roll ends (especially those from ends of parent roll); remove bottlenecks of slitting from the rewinder; reduce waste (in spite of extra trim) or at least stay even with present waste; and eliminate added maintenance and downtime which result from use of shear cut slitting instead of saw tooth slitting (due to shift to dry crepe). So said Ben Warren, in charge of converting at Camas.

John W. Clarke discussed problems encountered in start-up of a finishing operation at Longview Fibre's new Seattle plant. He reminded:

"Inspect thoroughly every car and truckload of machinery for damage. All the necessary materials such as starch for making adhesive, tape, twine, stitching wire and many different colors of printing inks must be on hand before start-up. Checking rotation of electric motors may sound inconsequential, but we found an agitator, two vent fans and a trim blower turning the wrong direction."

Bob Zellinsky, design engineer, Western Gear Corp., said finishing rooms will see great strides made in automation. Floyd Jallo, cost engineer for Simpson Paper Co., Everett, told how mechanical handling of book paper at his mill had resulted in increased efficiency of workers.

Moderator was Bill Sutherland, finishing development engineer, Scott Paper Co., Everett. Chairman John McEwen, Weyerhaeuser kraft, Everett, was toastmaster.

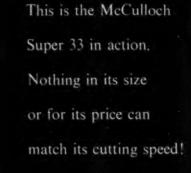


SPOTLIGHT ON FINISHING. Moderator BILL SUTHER-LAND (center) moved over from aircraft industry several years ago to Scott Paper Co.'s Engineering Department, Everett, Wash., where he is Finishing Development Engineer. (Left to right) BOB ZELLINSKY, Western Gear; BEN WARREN, CZ; Mr. SUTHERLAND; JOHN CLARKE, Longview Fibre; and FLOYD JALLO, Simpson Paper.



NOTHING IN JOHN CLARKE'S EVERETT PRESENTA-TION on the start-up of Longview Fibre's new Seattle converting plant indicated that this picture is untrue. However, he acknowledged that "to keep the plant running efficiently after it is started is the biggest job of all."

# McCULLOCH SAWS CUT FASTEST







### McCULLOCH OFFERS COMPLETEST CHOICE OF SIZE OR POWER, WEIGHT OR PRICE



MODEL 33

Lightest weight, 20 pounds complete; lowest price, a real buy at \$195 up.



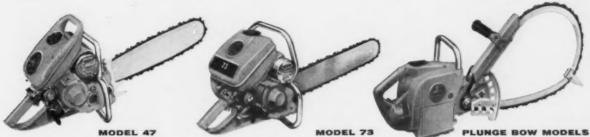
SUPER 33

Most powerful of all saws in its weight class, only 22 pounds. \$237.50 up.



**MODEL 4-30** 

This is a powerful, well-balanced, light-weight saw, priced at only \$315 up.



A dependable and rugged performer weighing only 30 pounds, \$279.50 up.

Fastest-cutting 1-man saw; top professional favorite; weighs 31 lb. \$365 up.

Cut with the tip, save labor in pulp logging. Bow saws in all models, \$240 up.





# Shovel-Crane owners!

# sharing your profits with old-fashioned clutches?



Remember the day the weather was fine, footing good and you were really moving pulpwood . . .

That was the day it looked as though you were going to set a new yard record. But the clutches were getting hotter all the time. By midmorning the shovel-crane went down for clutch adjustment—the heat had done it. After the noon break, the same thing happened. How many cords of wood do you figure you were penalized for having a rig with old-fashioned clutches?

#### Avoid costly downtime

With a Link-Belt Speeder you get modern power hydraulic-actuated clutches that automatically compensate for heat and normal lining wear. In fact, most Link-Belt Speeder owners will tell you these clutches are so good, adjustment is needed only once or twice a month.

It's just one of many ways you're big money ahead with a Link-Belt Speeder.

Get the complete story from your distributor. He'll show that whatever rigs you need—crawler or rubber-tired . . . ½ to 3-yd, 8 to 60-ton capacity—you'll earn bigger return on your equipment dollars with a Link-Belt Speeder. Or write for literature—Link-Belt Speeder Corporation, Cedar Rapids, Iowa.

## LINK-BELT SPEEDER

Builders of a complete line of crawler and rubber-tired shovel-cranes.



Summer

**HEADQUARTERS FOR WOODROOM MACHINERY** 





BARKERS HYDRAULIC - MECHANICAL



LOG BREAKDOWN MACHINERY

AXE SPLITTERS

BAND MILLS

TWIN BAND RIPS

NO MAN CARRIAGES

SLASHERS

CHIPPERS

CHIP SCREENS AND

HOGS, BRIQUETTORS, TRIMMERS, SPROCKETS



SPECIAL PULP
AND PAPER MILL
MACHINERY
SULPHUR BURNERS
DECKERS
WASHERS
WET MACHINES
MOLD ROLLS
AGITATORS
PAPER SHREDDERS
GENERAL
TRANSMISSION
MACHINES













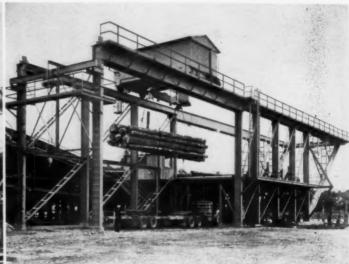




# EVERETT, WASHINGTON

In Canada: Canadian Sumner Iron Works, Ltd., Vancouver, Canada

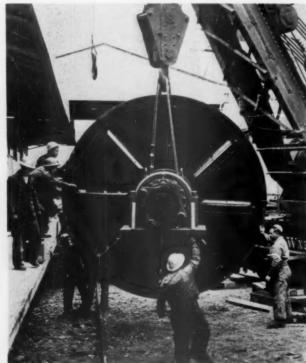




"BY SEA AND BY LAND"-Same crane hoists 50 tons of logs, wet or dry. Left, Berger 50-ton bridge crane operating at salt-water log pond of Rayonier Inc. lifts up to 50 tons of

logs to log deck. Right, crane can also move to the land side of log deck and hoist up truck loads of logs. Steel ways supporting crane built by Leckenby of Seattle.

## This Wood Plant Has Many "Firsts"



FOR BIGGEST CHIPPER MURRAY EVER MADE. Rayonier's rigging crew unloads the huge Lukens steel 150 in. chipper disc for giant D. J. Murray chipper.

Million dollars and engineering knowhow give Rayonier much better chip production

> • How Rayonier Inc. engineers developed a highly flexible, time-, spaceand cost-saving wood preparation plant is revealed in the story of its new woodroom at Port Angeles, Wash. It serves a 350-ton bleached sulfite pulp mill and is new from salt water to

For 24 years, chip requirements had been furnished by an eventually antiquated plant, which cut lumber as well as made chips. Lumbering here had begun in the same building in 1919; finally was discontinued in 1942. A lathe type hydraulic barker, one of the first, was installed in 1945, but even this became out-dated. It was a hybrid plant, too much wasted floor space; layout and conveyors were okay for sawmilling but uneconomic for pulp chips; limitations of the barker necessitated much mechanical secondary wood cleaning.

NOW-DIFFERENT-AND HOW!

-Now a steel structure houses a new \$1,000,000 woodroom, providing speedy delivery of logs arriving via salt water as well as trucks, with modern cut-up, barker, chipper, screens and storage.

Operations since the start-up have proven successful. During recent years chip requirements have materially increased and the new woodroom handles these comfortably on a 2-shift schedule. The addition parallels part of the old woodroom which is retained to bark logs too large for the new barker and break down logs too large for the new chipper.

Sinker logs rarely have to be salvaged from the bottom of the pond. Logs brought in by water now are bundled with steel strapping. Lines from a new bridge crane cradle the bundles of 15 to 20 logs and then a pond man cuts the strapping. This gives the crane a loose load that is deposited on transfers ahead of the log haul.

Transfer from trucks is equally efficient, as the same principle of fullload handling applies

A new hydraulic barker and a giant whole-log chipper have increased the yield of chips. Construction was accomplished with no interruption of pulping operations. Over 600 tons of structural steel was fabricated and erected by Leckenby Structural Steel Co., including Bethlehem Pacific Coast's Mayari R, for resistance to impact and abrasion.

HOW CRANE WORKS-Unique features were built into the heavy duty 50-ton bridge crane, built by Berger Engineering Co. Bundles are properly balanced by a spreader bar arrangement.

The crane takes logs parallel to its long dimension. This allows a narrow crane span of only 24 ft., more economical construction-wise and keeping transportation of logs at a minimum.

PRODUCTION TEAM plant for that produced Rayonier, Port Angeles (l to r): JOHN GRAY, Res. to r): JOHN CRAY. Res. Mgr.; HARRY THUR-LOW, former Res. Mgr., now at New York (as Asst. to Vice Pres. Russ Erickson); H. A. SPRAGUE, now retired, former Asst. Reg. Mgr.; and FRED STOLZ, Plant Engr.



Three minutes is the average loading cycle.

Westinghouse AC motors power the crane, 25 hp for bridge travel and 125 hp for the hoist. Both are woundrotor induction motors with magnetic controls.

The crane's four tag lines have a dual function; they will (1) trip sling lines on the deck (a safety feature) and (2) pull sling lines up off the deck. The tag lines help spread the sling lines when dropping to pick up a load. They are reeved through fairleaders for any direction. They raise and lower automatically with the spreader bar and can be independently raised or lowered other times. Rayonier designed its own trip for sling line hooks.

The operator's cage has heavy Plexiglas windows. An innovation is the platform for servicing current collectors and conductors; it rides right along below level of the power house.

HOW HYDRAULIC BARKING WAS IMPROVED-A Hansel Engineeringdesigned 36 in. hydraulic ring barker handles logs up to 30 in. but averaging 12 in. diameter, and 32 ft. long, at 75 fpm average speed. Water is delivered at 1450 psi by a Byron Jackson 900 hp pump.

The barker, built by Washington Iron Works, was originally fitted with 3 nozzles but operating experience

revealed 6 are more efficient. Instead of the usual water pressure for raising and lowering barker controls, a Racine Co. hydraulic "Power Pack" unit is

The barker pump is driven by a 1000 hp 3600 rpm Westinghouse 3-phase 60 cycle 2300 volt squirrel cage induction motor Type CS, built for direct connected operation and for line start operation. Infeed and outfeed rolls are each powered by Westinghouse 15 hp package-type variable voltage drives.

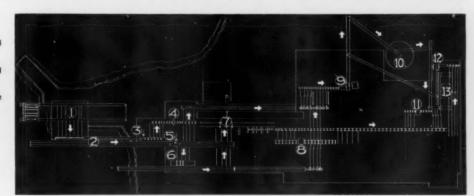
Barker and chipper control desks have lever-operated push buttons, handle-operated, saving operators from repetitious operations and allowing them to activate the controls by

UNUSUALLY LARGE CHIPPER AND DRIVE-The chipper, largest ever built by D. J. Murray Mfg. Co., has what is believed to be the largest chipper motor. The Lukens chipper disc is 150 in. diameter, 13 in. thick. It uses 8 knives and chips 100 cords per hour.

A Westinghouse 1750 hp 3-phase, 60 cycle, 2300 volt, 80% power factor, direct-connected, 2-bearing coupled synchronous motor drives it. Temperature rating is 50° C. continuous rise; operating at a constant speed of 257 rpm and capable of 250% pull-out torque. The motor is dynamically

#### Woodmill Lavout

- 1. Bundle deck & log crane Log hauls
- 3. Cut-off saw for ring barker Ring barker
- 5. Cut-off saw for lathe barker
- Lathe barker
- Head rig
- 8. Edger 150-in. Chipper
- 10. Chip surge bin 11. Stetson Ross
- barker 12. 110-in. Chipper 13. Chip screens





A Craneways

Bldg. >
framing

Log >
haul



## Over 600 tons of Leckenby steel in Rayonier Inc.'s new wood room

#### ABOUT THIS PROJECT-

Modern facilities of Leckenby's Seattle plant plus expert knowledge of the pulp and paper industry's rigid engineering requirements were combined to produce the wide variety of steel structures and steel components for Rayonier Incorporated's efficient new wood room at the company's Port Angeles sulfite pulp mill. From the extensive range of the finest American steels, Leckenby fabricated and installed the steel best suited for the individual applications.

The job included everything from heavy structural framing in the major wood room buildings to such close-tolerance construction as craneways, chip conveyors and log haul. Special attention was given to structures exposed to constant salt-air weathering and to surfaces subject to repeated battering and abrasion by pulp logs.

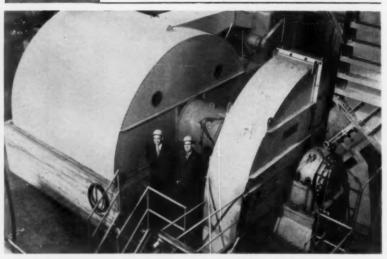
Leckenby is proud of its record of teamwork with western wood industries and congratulates Rayonier on its modernization program.

When the job calls for steel, call for Leckenby!



# PULP & PAPER

#### PULPWOOD SECTION



BIGGEST CHIPPER DRIVE DWARFS MERE MAN—Standing between 8-knife D. J. Murray 150-in. whole-log chipper and its 1750 hp Westinghouse electric motor are GORDON JOHNSTON, Woodroom Supt. (left) and DICK ULIN, Asst. Master Mechanic. Chipper turns at 257 rpm, is direct connected to motor by Thomas flexible coupling. Housing of drive is large enough for man to enter for inspection.

braked to stop in approximately 90 seconds.

Rayonier built their own housing around it and a subsequent totally enclosed forced ventilation system. There is room inside for a man to walk around.

Cooling is provided by a packagedunit Westinghouse-Sturtevant air-towater rotating machinery cooler.

The all-welded steel base is unique for a chipper of this size. It is equipped with Timken bearings and has a central forced feed lubrication system. The spout, large enough for logs 34 in. diameter, faces the disc at right angles and the angle of cut is 54°. Due to the extreme acidity of hemlock, bearing housings were lined with

stainless steel as were certain exposed mating surfaces in the disc. A reinforced concrete foundation contains many tons of material.

OTHER EQUIPMENT—To handle output from a new steel chip silo is a high capacity rotary plate chip feeder, Model LB, supplied by James Brinkley Co. Instead of the usual cast tooth gears, the feeder has cut tooth steel gears.

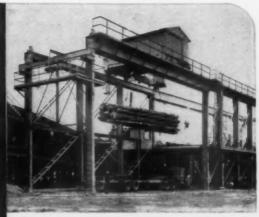
All conveyor and general purpose drives are powered by Allis-Chalmers 440 volt, 3-phase enclosed squirrel-cage induction motors. These are ribbed case motors cooled externally and cannot be plugged with dirt or foreign matter. Transfers, roll cases



ABSORBS SURGES FROM BIG CHIPPER—Steel chip silo built by Beall Pipe & Tank Corp., fits into the modernized Rayonier woodroom operation by providing additional chip storage. Note size of men below.



50-tan Berger Bridge Crane at Rayonier's Hoquiam River dump, handling big spruce logs. 2-minute unloading cycle. Crane replaced 1200' brow log and double-tracked dock.



Right—Berger Crane easily maintains full maving deck of logs at Rayonier's new Port Angeles "wood room."

# How BERGER BRIDGE CRANES MET RAYONIER'S OWN "RIGID SPECIFICATIONS"

When Rayonier, Inc., installed a 50-ton Berger Crane at its Hoquiam River log dump, it didn't guess as to its needs or expectations. In Logging Engineer Jack Norkool's words, this bridge crane "was selected after a careful survey to improve the efficiency, flexibility, economy, and safety of the dumping and sorting operation. Rigid specifications were set up. The operation had to be simple and economical, permit handling of bundled logs, prevent breakage of logs, permit some immediate sorting, permit dumping at lower tide levels, minimize accumulation of debris, reduce damage to cars and dock—and yet permit an unloading cycle of not to exceed 2 minutes per car. All these specifications were fully met." The same rigid "specs" governed the selection of equipment at Rayonier's new

million dollar addition for handling pulp wood at Port Angeles. There a Berger Bridge Crane picks up bundles of logs from the pond or moves to the land side of the log deck and lifts a truck load in one hoist. There, again, the Berger Bridge Crane lives up to all specifications of EFFICIENCY, FLEXIBILITY, ECONOMY, and SAFETY. . . . Write for free folder.





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belt and refuse conveyors were by Sumner Iron Works.

Chain Belt supplied all troughing and return idlers for belt conveyors, transfer chain on log decks, roller chain drives for belt conveyors, chain transfers and roll cases.

STAFF WHO CARRIED OUT PRO-JECT- John Gray, resident manager, was chief of the Rayonier Central Engineering at Hoquiam, Wash., during planning and construction. The resident manager was Harry Thurlow. since transferred to New York. Assistant resident manager was H. A. Sprague, now retired and succeeded by E. H. Woodruff.

Other Rayonier Port Angeles personnel who worked on the new woodroom include Fred W. Stolz, resident engineer; H. E. Springer, chief electrician; Richard R. Ulin, assistant master mechanic; and Bern S. Crowell, recently transferred from Central Engineering. Central Engineering men on the project were chief engineer, Ralph J. Kutchera, J. G. E. Ellis, Robert A. Pearson and James M. Richardson.

Consulting engineers were Stevenson and Rubens, Seattle. Howard S. Wright & Co., Seattle, did part of the construction.



AUTOMATION IN WOODROOM— Hansel hydraulic ring barker is con-trolled by levers and was designed to bark 30 in. maximum diameter logs at 75 fpm.

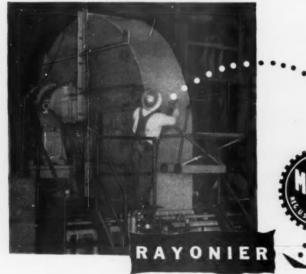


chute to whole-log chipper, biggest D. J.





ROTARY PLATE CHIP FEEDER— James Brinkley high capacity unit can handle full output of chip surge bin. Cast iron rollers, angled at 45°, are corrosion-abrasion resisting.



Illustrated is the MURCO 150" pulpwood multi-knife chipper installed at Rayonier Inc., Pulpmill, Port Angeles, Washington, to reduce whole logs 36" in diameter 20' long to pulpwood chippers in a few seconds at a capacity of one hundred cords per hour.

In addition to the giant-size chippers we design and In addition to the giant-size chippers we design and manufacture chippers in the following diameter discs: 36", 50", 54", 60", 64", 75", 84", 86", 88", 90", 102", 110", 120". Whether it is a 36" chipper or the giant-size, there is a reason for the wide preference for MURCO Chippers by paper mills throughout the country. try . . . it is their outstanding performance, producing more and better chips at less cost, with less sawdust and slivers, free from repairs, while at the same time having production records of one hundred cords or over per hour . . . and because MURCO Chippers are compact they require less floor space.





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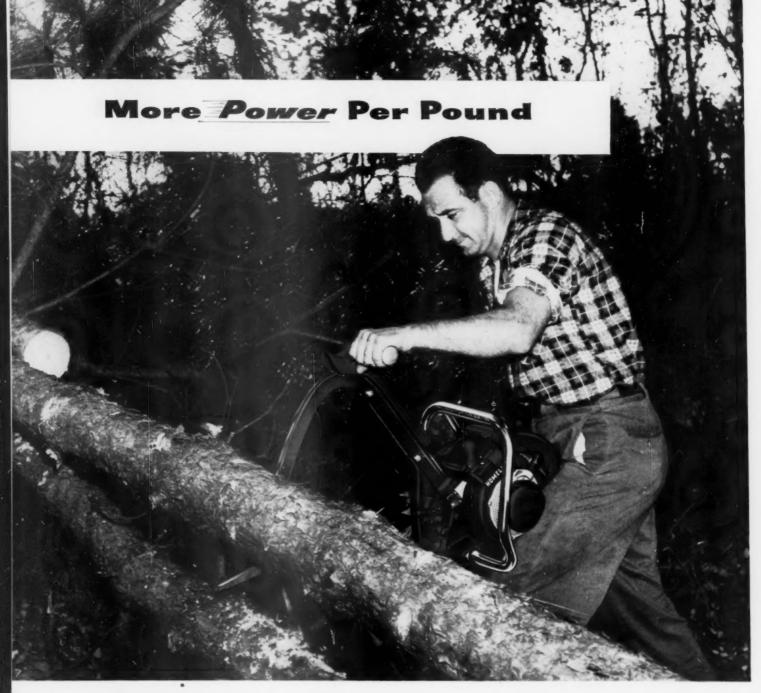
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#### PULPWOOD SECTION

#### Three More Mills for Upper Michigan?

Surveys show much wood is going to waste—State's decision re new Manistique mill is significant

 At one time Michigan's Upper Peninsula was one of North America's foremost sources of lumber. That era ended, but despite that fact, recent surveys reveal that much of its wood resources, far from being exhausted, actually are going to waste today.

Michigan College of Mining and Technology's Forest Products Research Division and Ebasco Services, Inc., conducted the surveys which, they say, disclose that the Upper Peninsula could support three additional mills utilizing the area's large abundance of aspen and suitable pulpwood from second growth hardwoods and hardwood logging residue.

The college estimated that three semi-chemical mills could produce at least 150 tons each of hardwood pulp a day without interfering with production of present mills. More mills could be located in the region if their requirements were less than 150 tons a day.

Currently located in the 16,538 sq. mi. area are Marinette Paper Co. of Menominee, with a 15-ton-a-day groundwood mill; Manistique Pulp & Paper Co. of Manistique, with an 80-ton-a-day groundwood mill; Escanaba Paper Co. of Escanaba, with a 125-ton-groundwood mill; Munising Paper Co. of Munising, with a 90-ton sulfite pulp mill; and National Container Corp. at Ontonagon, whose 125-ton-per-day sulfate pulpmill now is inactive.

Largest aspen-using pulp and paper mill in the Upper Peninsula is Escanaba, with 20% of its annual 25,000-cord requirements being filled by aspen. The other mills use considerably less. None of the currently operating mills in the Upper Peninsula is using any of the available dense hardwoods.

MICHIGAN TECH PROPOSES SITES—For purposes of location, Michigan Tech has determined seven possible areas for the consideration of pulp and paper industrialists thinking of building new mills (shown by accompanying maps). The college researchers point out that any new mills should be sufficiently far apart to avoid

interfering with each other. In these seven areas, overlapping somewhat, the maximum pulpwood haul to favorable mill locations should not exceed 100 miles. Located in the area are 12 cities believed to represent the most favorable sites:

Area 1—Sault Ste. Marie or St. Ignace; Area 2—Manistique or Munising; Area 3—Escanaba or Gladstone; Area 4—Marquette; Area 5—Houghton, Ontonagon or L'Anse; Area 6—Crystal Falls; Area 7—Bessemer.

Indicating the amount of aspen available in the Upper Peninsula, in 1948—year of the most recent timber census—annual growth was 36,800,000 cu. ft. while production totaled only 19,200,000 cu. ft. This amounted to an excess growth of 17,600,000 cu. ft., a substantial portion of which might have been utilized by industry. In the same year it was estimated some 390,000 cords of hardwood logging residue was economically available, annually, as suitable pulpwood material.

Today in the eastern half of the Upper Peninsula alone, aspen forests cover 1,131,000 acres, of which 1,000,000 acres are described as commercially operable aspen stands.

Foresters estimate that this area can sustain an annual drain of at least 200,000 cords of aspen for the next 20 years. The current annual cut is around 60,000 cords, leaving an available surplus of 140,000 cords a year.

Ebasco points out that within the past 10 years a number of successful mills utilizing hardwood from old-growth stands, aspen or second-growth dense hardwoods have been established in Ontario, lower Michigan, and northern Wisconsin. Therefore considerable precedent exists for the location of this type of operation in Michigan's Upper Peninsula.

Other incentives for the location of pulp and paper mills in the Upper Peninsula are pointed out. The region perhaps offers the most plentiful supply of water of any comparably sized territory in the United States.

AREAS IN UPPER PENINSULA OF MICHIGAN where researchers suggest semi-chemical pulp mills could be established.



#### PULPWOOD SECTION

with 4,303 lakes, 12,406 miles of streams, and 1,114 miles of shoreline, according to the Michigan Economic Development Dept. at Lansing.

Most of this water is unusually pure. According to the chief of the hydraulics division of the Michigan Water Resources Commission, the water bordering Lake Superior "has 50 parts hardness which places it in the category of rain or distilled water. Lake Michigan water is of high qual-

The Upper Peninsula's long shoreline has added significance to the paper mill industry. In orders handed down last year for Manistique Pulp & Paper's application to build a semichemical pulp mill, the Water Resources Commission stated that it would permit the disposal of some of the company's pulp wastes into Lake Michigan. This indicates other mills would be allowed to dispose of a portion of wastes in this way.

Labor in the Upper Peninsula is reported to be extremely plentiful and many unemployed are experienced paper mill workers. According to the Michigan Employment Security Commission, the region's current unemployment figure is 12,700, or 12.8% of the working population. Today the region's 1,800 paper industry workers earn an average of \$1.90 an hour, about average for the industry.

Most Upper Peninsula residents foresee a boom in 1957 with the opening of the long-awaited Mackinac Straits Bridge connecting Michigan's two peninsulas. Now capable of giving quick deliveries to Chicago and points west, Upper Peninsula plants would then be able to make equally rapid deliveries to Detroit and the East. There are 50,000,000 consumers within a 500-mile radius of Upper Peninsula plants.

In value of product, Michigan ranks sixth in the nation as a chemicals-producing state. Mills find many needed chemicals close at hand. About 75 Michigan firms manufacture pulp and papermaking supplies and equipment.

#### Government Committee Hears Testimony Of Forest Inefficiency

At a recent series of Congressional committee hearings in the Pacific Northwest and California, there was almost unanimous opinion among federal, state and industry spokesmen favoring (1) federal financing of mainline timber access roads, (2) attainment of full allowable annual cut from federal forests, (3) reinventory of federal forests to provide a more accurate basis for allowable cut determinations, (4) simplification of federal timber sales and (5) study of federal forest personnel policies and salaries.



Edward P. Stamm, vice pres., Crown Zellerbach Corp., said ten thousand miles of main roads should be scheduled on the federal forests of western Oregon and Washington at the rate of 500 miles a year for 20 years, to be financed by appropriation of \$15,000,-000 or more a year. More than 1500 miles of access roads and lateral spurs are needed to develop the allowable cut, he said. This would cost up to \$35,000,000 a year and should be done through timber sales. Up to 40% of the timber along new routes should be sold to build roads, so the other 60% can be sold later in tracts of varying sizes.

The government should assume responsibility on fires, the same as private owners, and be willing to settle grievances in the courts Mr. Stamm said.

Criticizing federal road building, Mr. Stamm suggested an advisory council of road engineers be used by the agencies. He said his company builds about 75 miles a year, with costs of \$10,000 to \$20,000 a mile.

"I shudder over specifications drawn up for government roads that cost from \$40,000 to \$80,000." he remarked.





PULPWOOD MIXUP: JAMES B. LAT-PULPWOOD MIXUP: JAMES B. LATTAY (left) is new Woodlands Mgr. of Carolina divisions of Riegel Paper Corp. W. J. BAILEY (right), Vice Pres. of W. Va. Pulp & Paper Co., is new Pres. of American Forest Products Industries Inc. We are sorry their pictures got switched in our January issue, so here they are correctly identified.

#### Survey Shows Who Owns Timber in South

The pulp and paper industry controls about 12 million acres of forest land in the South-about 6.3% of Southern forest land.

Southern Pulpwood Conservation Association reported these figures in a booklet designed to show who owns and controls Southern forest lands. According to figures, some derived from the recent U. S. Forest Service Timber Resource Review, farmers and private landowners control almost three-fourths of forest lands in the

Wood-using industries are second on the list, owning 33% million acres, or 17.5%, as compared to 143 million acres or 74% owned by private persons. Pulp and paper industries, with 12 million acres, own less than governmental agencies, which control some 16,700,000 acres-about 8.5%

Forest Service also reported that Southern pulp and paper industries are the best custodians of its lands. The industry, nationally, gets 84% maximum use of its forests compared to 81% for national forests and 73% for lumber. In the South, pulp and paper ranks even higher, getting 96%.

The report also shows that lands owned by the pulp and paper industry in the South, when growing a full crop on sustained yield basis, will provide 50% of the total pulpwood requirement for the 67 Southern mills.

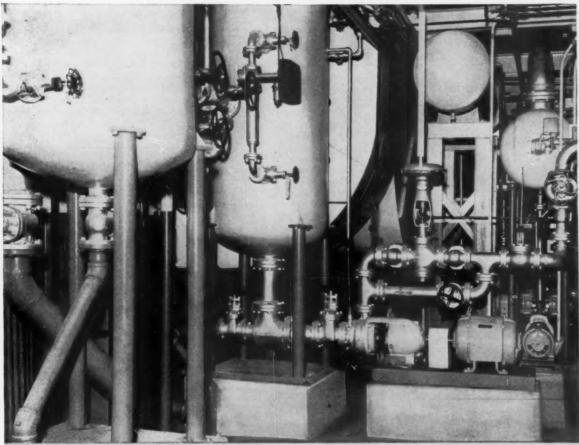


#### New Case "400"

A new industrial tractor, the Case "400", has been announced by J. I. Case Co., Racine, Wis. The new "400" series is available in two models with choice of

engines:
Powrcel Diesel, with controlled combustion chamber, induces strong, swirling turbulence, and resists detonation. It has a 6 point fuel filtering system which reduces engine wear with extra clean burning fuel. Powrcel Diesel starts directly on diesel fuel.

The Powrdyne gas engine is built with diesel strength. Incoming mixture whirls around past the spark plug and over the exhaust valve, helping cool them. Swift exhaust valve, helping cool them. Swift turbulence speeds smooth, normal burn-ing, discourages detonation, produces high power and economy. For further de-tails, write J. I. Case Co., Racine, Wis.



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# PULP & PAPER

#### PULPWOOD SECTION

#### PULPWOOD PERSONALS

WILLIAM H. (BILL) BENNETT has been appointed to take charge of the forest insect surveys at the Southern Forest Experiment Station of the U.S. Forest Service in New Orleans. . . . R. V. MILES, JR., forest and public relations manager of Gulf States Paper Corp. at Tuscaloosa, Ala., has been elected chairman of the Alabama Forestry Council. . . . WILLIAM C. BARTLEY resigned as Tennessee state district forester to accept a position with the Hiawaaee Land Corp., owned by Bowaters Southern Paper Corp. He will be assistant forester under LOUIS CAMISSA. . . . Two new foresters joined the Louisiana Forestry Commission ranks recently-IAMES S. TOWNSEND and WINTON L. SLADE. . . . L. L. LUNDY, former assistant fire control chief, takes over the new post of Chief of Services and Supply for the Georgia Forestry Commission. . . . C. S. BARNES steps into Mr. Lundy's old job. . . . J. A. MICHAUD has been elected vice president in charge of woodlands of Consolidated Paper Corp. Ltd. of Canada, according to announcement by G. M. HOBART, president. Mr. Michaud was general woods manager of the corporation and replaces FRANCOIS FAURE who is retiring after 51 years service. Mr. Faure will continue as counsellor and director. . . . ROBERT DeLONG, resident woodlands manager, St. Regis, Tacoma, Wash., will be a director of the Tacoma Lumbermen's Club for the coming year. At the club's recent 36th annual meeting, TOM MURRAY, JR., West Fork Logging Co. (St. Regis wood suppliers in West) was elected president for 1956. . .

## Problems in the South —All Concern People

Major forest production problems in the South: (1) incendiarism, (2) failure of small owners to practice forestry, (3) discriminatory taxes on large ownerships and (4) a vacillating tax policy.

So says A. W. Nelson, Jr., The Flintkote Co., Meridian, Miss.

"They indicate foresters need to spend more time working with people and less time working with trees," he said. "We need research on people and their reactions. Why do people burn woods? Why does a man sell his timber on a clear-cut basis, with so much forestry assistance available?

"There is sufficient technical knowhow to grow additional timber," he added. "But the present attitude of the general public will not result in that timber being grown."

#### Forest Fire Threat in South

Forest fires destroyed a total of 20,690 acres of forest lands in the South during November, state foresters reported.

Alabama leads the 9 Southeast states with 409 different fires reported and a total of 3,978 acres burned. Arkansas—second on the list with 365 fires burning 2,594 acres—was the only state reporting an increase over previous months. In October, only 132 forest fires were reported in that state. In all, the nine states reported 2,845 fires.

Virginia reported the least fires, suffering only 131 with 722 acres burned.

#### A Lot of Chips

Chippable residues available from sawmills and plywood plants within 60 miles of Springfield, Ore. total more than 300,000 tons of clean dry wood per year. Oregon Forest Products Laboratory says this could be increased to 800,000 tons yearly by use of barkers at larger mills using wood from refuse conveyors at the smaller mills.

#### "HOW TO DO IT"

#### How Union Bag "Shakes" New Life From Old Cones

In its effort to transplant seeds from some 2,000 bushels of pine cones every year, Union Bag and Paper Company of Savannah, Ga., has come up with the "shaker" shown at right in pictures above. Seeds gathered in this annual harvest are taken from the best trees and replanted in the same general area from which the cone comes. By this special handling, foresters hope to learn more about the growing aspects of the pine.

This operation took place near Jesup, Ga., where men with long "jousting poles" clambered 250 top trees in the plot, knocked down handsome clumps of cones. On the ground, men followed close behind gathering almost 200 bushels of seed-producing

At the company-owned drying site at Horseshoe Bend, Ga., on the banks of the Osconee River, the cones are placed in wide trays and, as the bracts open in drying, the trays are shaken and the seeds drop to a tray below where they can be quickly collected and shipped off to the nursery, there to be recorded and readied for planting.







PINE TREES ARE BORN HERE. This strip shows how Union Bag and Paper Co., Savannah, Ga., harvests its annual crop of seed cones for use in its special planting program. At left, cones are knocked out of trees the hard way—by man with a long

pole. Center, the cones are collected in bags. Then (right) placed in racks for drying. When bracts open, seeds are shaken loose, fall into tray below to be collected and planted.

# This is BLACK-CLAWSON

New Vacuum Pick-Up on Newsprint Machine

The predicted heavy increase in global newsprint production during the next ten years makes newsprint machine development extremely important.

Black-Clawson's Paper Machine division builds high-speed newsprint machines and components.

The new 290" Bagley-Sewall machine at United Paper Mills, Ltd., Finland, features this Vacuum Pick-Up Press Section and a Permanent Cantilever Fourdrinier. It is completely hydraulically controlled.



The BLACK-CLAWSON Company

PAPER MACHINE DIVISION . WATERTOWN, NEW YORK



## A Report on What's New in Scandinavian Mills

By R. F. PATTERSON

Director of Planning and Research Powell River Co.

• Each country in Europe has its own peculiar pulp and paper atmosphere, its own problems. None is backward in research, and our slight lead on this continent in operating practices and machine speeds is getting less all the time. Technical men and operators from this part of the world can profit by visiting the mills over there.

In West Germany, the keynote is one of rebuilding, modernization and expansion. New installations in two paper mills I visited in West Germany were well designed and highly instrumented. Both had an air of prosperity. The Reisholz mill at Dusseldorf may be taken as an example. It is one of several mills owned by the Feldmuhle Co., which lost about six mills to Russia in the partition of Germany, but the Feldmuhle empire is being aggressively reassembled in West Germany.

The Germans practice good forestry, but their forests can support only part of the demand and imports are essential. Industrial power is expensive; equivalent to about 6 cents per kilowatt hour.

INGENUITY IN GERMANY-Both mills I visited manufactured their own groundwood pulp but import chemical pulp. In both, Voith continuous chain grinders are used. At the Feldmuhle mill near Dusseldorf the biggest newsprint machine was a 200-in. Voith unit running at about 1,550 fpm. It was equipped with a Germanmade couch transfer just after my visit and is now running at 1,900 fpm. All pulp and paper samples from the different departments were delivered to the lab by means of a pneumatic mailing system, and results were sent back the same way.

In Germany, I visited the Voith, Jagenberg and Ecke works, all three makers of mill machinery, and in each one, quality and ingenuity were in evidence.

SEEN IN SWEDEN—First place I visited in Stockholm was the Swedish Forest Products Laboratory, perhaps the best equipped pulp and paper research institute in the world. An experimental machine there was installed 4 or 5 years ago. It is one meter wide, designed for speeds up to 1,500 fpm. The dryer section is a combination of conventional dryers and a Yankee cylinder with many pos-

DR. PATTERSON, who wrote this report on recent European tour, heads planning and research for Powell River Co. He studied under late Dr. Harold Hibbert, world cellulose authority, at McGill.



sible arrangements of felts.

I spent most of my time at the Institute talking with Dr. Borge Steenberg. Discussions with him are a real workout because of his keen mind and his refreshing approach. He was working on fundamentals of pulp screening and gave me a long lecture on the statistical chances of a pulp fiber passing through a hole of a given size on a screen plate.

The laboratory in Stockholm is very much an integral part of the Swedish industry.

SWEDEN FACES WOOD SHORT-AGE-Sweden is faced with a limited wood supply. At present cut and growth are said to be about in balance. It is expected that improved forest practices will augment the wood supply slightly, although no major expansion is possible. Only two types of evergreens, a spruce and a pine, occur in Sweden. Fair volumes of birch and aspen are also available, but have not yet been used for papermaking. Forest products account for about 50% of Sweden's exports.

There are many sulfite and kraft mills, but only five newsprint mills with total production of about 350,000 tons per year. There is some tendency towards the manufacture of more paper, particularly kraft, at the expense of export pulp.

SURPRISE IN SWEDEN — The Swedes do not seem to be concerned with the question of high-yield sulfite pulping, which is surprising in view of their limited resources. Short cooks seem unknown. Even newsprint sulfite pulps may require up to 18 hours cover to cover.

The Loddy sulfite mill of the Holmes Bruks Co. burns spent liquor for production of steam in a specially designed cyclone burner. With exception of steam for drying the pulp the mill is more than self-sufficient.

A mill manager told me in Sweden there is no seniority rule and management can promote as it chooses, although unions are strong. At this particular mill the machinetender's rate was base rate plus 40% and in some mills it was as low as base rate plus 15%.

UNUSUAL EQUIPMENT IN FIN-LAND—For a touring papermaker, Finland is a "must." In spite of the war, the huge indemnities paid to the Soviet Union, the loss of the province of Karelia with its rich forest and waterpower resources and pulp mills, Finland's forest industries are again flourishing. Modernization and new construction are everywhere. This is essential as forest products comprise 80% of Finland's exports.

Pulpwood is small, sound spruce and pine which produce a bright groundwood. Without any brightening or bleaching, newsprint brightnesses are usually about 57 to 60 G.E. The pine introduces a pitch problem, particularly in sulfite, and screens called ray-cell separators are used to help remove pitch. In the groundwood mills copper stock lines are said to help in pitch control.

There is considerable interest in possible utilization of birch and aspen by means of a chemi-groundwood process such as that developed by Great Northern Paper Co. at Millinocket, Me. Apart from the Central Laboratory in Helsinki, there did not seem to be much formal research, but in the mills there was a marked willingness to try new things.

EXAMPLES OF FINNISH CURIOS-ITY- At Myllykoski, someone had an idea grinding might be improved if the stone were moved back and forth on its axis during grinding. To try this out, they arranged to obtain a 0.2 in. throw at 120 cycles per minute on a 1200 hp Voith continuous chain grinder. No significant improvement in either power consumption or pulp quality was obtained, but difficulties of setting up such an experiment are an indication of this Finnish research attitude. Another mill prepared to try out a wire-covered roll for couch transfer.

Each mill had what they call a technical manager. He is roughly equivalent to a combination of our general superintendent and technical supervisor. Most are young men and they help keep the industry alive and dynamic.

At the Central Laboratory at Helsinki, supported entirely by industry, work was being done on methods of measuring wet mullen and wet tensile. It was felt these were important to paper machine operation. Exhaustive studies of laboratory methods have indicated that the Valley beater is about as good as any equipment available. Pulping studies at the laboratory appeared to have been concentrated on pulp quality, pitch control, bleaching and pulp testing.

GROUNDWOOD SCREENING ELIMINATED--At a newsprint mill at Kaipola, the groundwood mill is equipped with entirely Finnish-made Roberts grinders-twelve 2,000 hp machines. There are Jonsson knotters, but absolutely no groundwood screen room. Sulfite pulp is imported and prepared in Hydrapulpers. Unscreened groundwood and sulfite pulp are proportioned and go to a mixed stock tank. The mixed stock is finally screened on 5 primary and 3 secondary Lindgren screens and then goes directly to the couch pit. There are no screens on the machines

When I visited Kaipola, the first of two planned machines was partly installed. It was a 290-in. Bagley & Sewall with a nozzle-type pressure headbox, 126 ft. wire and couch transfer. Stock from the fan pump goes to a deaerating chamber located just under the roof and 30 ft. above the breast roll. This deaerator was a small flat tank and has been nicknamed the "flying saucer." It delivered stock to the headbox.

#### NORWAY'S GREAT PROBLEM-

In Norway, cut now exceeds growth. Some relief is expected as other fuels replace wood used for home heating, and experiments are being conducted to develop more rapidly-growing species, including some imported from other parts of the world. Stands of North American Western hemlock have been established and are now nearly ready for mill testing.

Great expansion of the Norwegian pulp and paper industry is impossible. Increased conversion of pulp to paper -that is, a decrease in pulp exportswould be desirable and is favored by many Norwegians. There is, however, strong opposition to such a trend from the United Kingdom, Germany and France as they are dependent on imports of wood and pulp. British capital is now attempting to buy control of Norwegian groundwood mills and even of forests.

The Norwegian Pulp and Paper Research Institute will soon be housed in a new four-story building designed to give ample room for at least 100 workers. A substantial part of its work is routine testing for small mills, but research has specialized on pulp evaluation, bleaching, xanthation studies and rheological properties of paper.

#### UNUSUAL MOISTURE CONTROL-

Largest newsprint mill in Norway is the Follum Co.'s at Honefoss, where a 1920 Walmsley runs at 1000 fpm. At the last main dryer one set of thermocouples contacts the surface of the dryer and a second set contacts the under-surface of the sheet about 8 in. after it leaves the dryer. The temperature difference between these points is said to depend on the moisture content of the sheet, and this is used to control steam to the dryers. The staff seemed very happy with the results.

HOWARD MEYER, is Gen. Mgr. of new Webb plant at Atlanta. He is a grad of U. of Colorado, joined Webb in 1954.



#### Webb Co. of Detroit Opens Conveyor Plant in Atlanta

A new plant to house all manufacturing, engineering and sales departments has been opened in Atlanta by Jervis B. Webb Co., makers of industrial conveyors.

Howard Meyer, formerly with Chain Belt Co. and onetime vice president of Anchor Steel & Conveyor Co., will be general manager of the new plant. The new installation has 22,400 sq. ft. of floor space and employs 100 persons.

John Thompson is chief engineer and Ted Schlinkert is chief estimator. The Atlanta plant is the fourth built by Webb in the U. S. and Canada. Others are in Los Angeles, Detroit and Hamilton, Ontario,

#### Studying Expansion Plans, Integrating Gaylord and Crown Z

Einar W. Erickson, asst. vice pres. Crown Zellerbach Corp., and Vertrees Young, president of Gaylord Container subsidiary, are heading companion engineering groups to decide to what extent pulp and paper capacities should be expanded at the Bogalusa, La., mill.

These teams are integrating the two companies:

Administration-A. B. Layton, CZ, and E. J. Spiegel, Gaylord; operations -Reed O. Hunt, CZ, and Mr. Young and W. G. Hunt, Gaylord; sales-G. J. Ticoulat, CZ, and J. M. Arndt, Gaylord; timber-Don S. Denman, CZ, and Mr. Young, Gaylord.

#### **Paper Pulp Prices** Compiled by PULP & PAPER

These prices are indicative of general current market prices to the industry.

Bleached Sulfite: U. S.	\$145	to	\$150
Canadian	42.40		\$150
Scandinavian			\$150

Bleached Krafts:	Softwood		
U.S.	\$147	to	\$150
Canadian	\$150	to	\$155
Scandinavian	\$147.50	to	\$150
Hardwood			
2 212 12 17 17 17 12	\$140	to	\$145
	\$147.50		
	4		* *

Unbleached Sulfite: U. S. Canadian Scandinavian	\$125	to	\$125 \$130 \$132.50°
Unbleached Kraft:			

Unbleached Kraft:	
U. S.	\$115 to \$125
Canadian	\$115 to \$135
Scandinavian	\$120 to \$135°

Soda U. S. and Canadian	\$143
Unblesshad Coundwood	

Canadian \$60 to \$62 FOB Mill Scandinavian \$85 on dock (approx.)

Canadian Grounds	\$95 delivered
Semi-bleached Kra	ift:

\$135 to \$140 II S Canadian \$135 to \$140 Scandinavian \$137.50 dock to \$145 dock

·-With varying freight allow

Of interest to observers of the pulp market is that bleached sulfite and sulfate pulps are now selling at about the same price. This situation may change with the next quarter.

In spite of increased paper pulp consumption, mills are maintaining about the

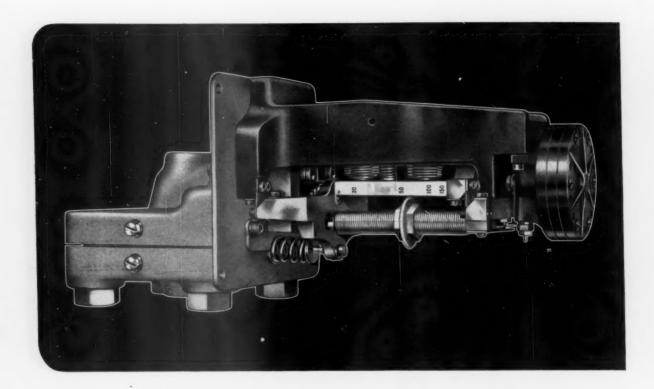
same ratio of inventory to consumption as in previous years.

A leveling off of European paper mill demands for paper pulps is reported with the attainment of satisfactory inventory



**New Rice Barton Executive; Promotion in Link Belt Co.** 

ROBERT G. MILLAR (left), new Vice Pres. in Chg. Mfg., Rice Barton Corp. He was formerly Pres. of Keleket X-Ray Corp., a Tracerlab Inc. subsidiary. DON-ALD L. SHIRLEY (right), appointed Pacific Northwest Sales Mgr. for Link-Belt Co., will have responsibility for sales in Wash., Ore., parts of Ida. and Mont., and Alaska, will continue headquarters in



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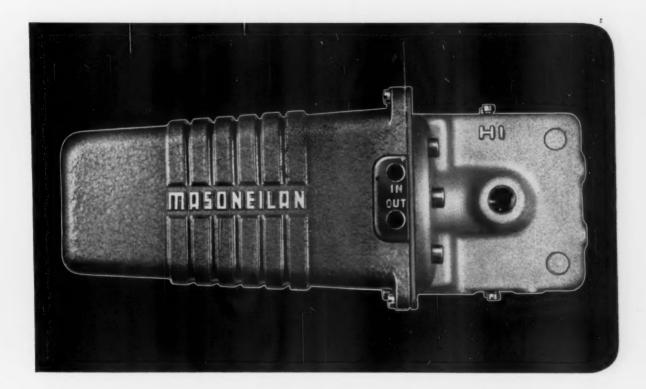
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- Heavy section mechanism frame bolted directly to diaphragm

- housing, and cover mounted to a floating plate, eliminating distortion due to outside forces acting on case.
- Diaphragm housing is rugged AISI Type 316 stainless steel forging; avoids possibility of distortion from piping.
- Self-aligning, friction-free flexure bearings of beryllium copper for greater strength.

- Mounting is on diaphragm housing — point of greatest mass — insuring sturdy installation.
- Adjustments provided with locks to insure retention of calibration.
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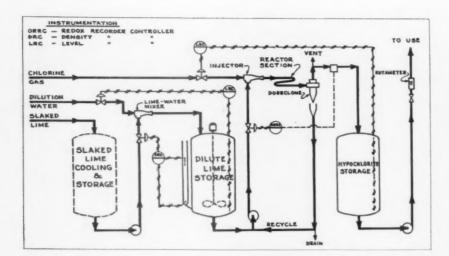


FIG. 1. FLOW DIAGRAM of new Hooker automatic calcium hypochlorite continuous bleach liquor system.

## A New Continuous Bleach Liquor System

By E. PAUL DUNCAN

• After several years of development work, a reliable, automatic continuous calcium hypochlorite system for producing lime bleach liquor has been developed. A full-scale installation has been tested in a sulfite pulp mill with entirely satisfactory performance. Results are comparable to the proven automatic sodium hypochlorite units at several large pulp mills.

The new calcium hpyochlorite manufacturing system is basically similar to Hooker's sodium hypochlorite system. Both feature the injection of chlorine and alkali under pressure to increase the reaction rate. A simple reaction coil provides necessary turbulence to complete the reaction in 5 to not more than 10 sec. This rapid reaction rate minimizes the time lag and provides easy control over product quality. Both require a continuous alkali dilution system, the accuracy of which determines the final hypochlorite strength. The calcium hypochlorite system features the additional steps of classification and recycling to assure a high quality product with maximum utilization of chemicals.

BENEFITS OVER BATCH SYSTEMS—By careful layout of the automatic plant and proper selection of equipment for each installation, the following advantages over conventional batch systems can be fully realized:

- Installation cost is lower because large reaction and storage tanks are avoided.
- Space requirements are reduced to a minimum.

E. PAUL DUN-CAN, who wrote this story for PULP & PAPER, is Technical Service Rep., Hooker Electrochemical Co., Tacoma, Wash.



 Operating attention is practically eliminated, resulting in considerable labor savings.

 Stability and uniformity of bleach liquor are improved, resulting in consistently better quality of product.

5) Complete utilization of chlorine and alkali can be attained. The substantial losses of chlorine and alkali inherent with conventional batch systems are avoided.

 Closer control over bleaching is possible, resulting in better product quality.

The Hooker automatic bleach liquor system<sup>9</sup> is simple and unique. Cost of equipment is relatively nominal. For example, the materials cost, including instrumentation, for the demonstration unit shown in Fig. 2 which produces 30,000 gpd of 40 gpl calcium hypochlorite, was less than \$5,000. The only equipment not shown is the dilute alkali storage tank and the optional finished bleach liquor storage. Larger scale systems, of course, will cost proportionately less, since much of the equipment cost would be the same.

The unit's simplicity and controlla-

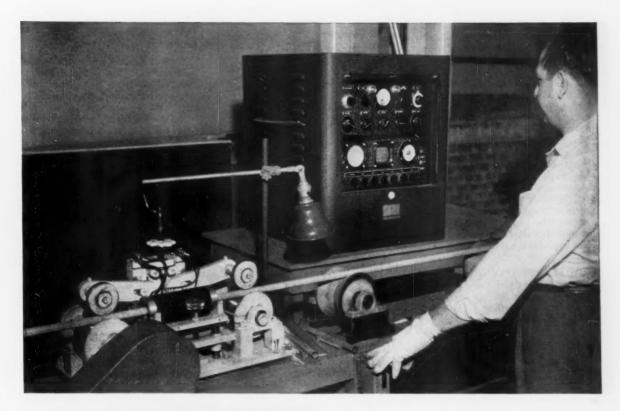
bility were acclaimed by technical and operating men representing 15 Pacific Northwest mills during recent demonstration runs at Hooker's Tacoma, Wash., plant where it is maintained for observation. Ease of operation and quality of product were recently proven during full-scale tests in a sulfite mill

HOW IT IS SET UP—In mill installations, the compact unit (4 x 8 x 2 ft. deep) as shown in Fig. 2, is mounted on the bleach plant operating floor. The bleach plant operator has full control over the system and the only attendance required is routine check-up. The operator controls hypochlorite addition to the stock either by metering bleach liquor or setting the chlorine flow according to bleachability.

Normal practice is to meter a volume of known strength bleach liquor from a storage tank to the pulp. Here a level controller on the storage tank adjusts chlorine flow to the bleach liquor plant. However, the operation is simplified by application of the finished liquor directly from the automatic system to the pulp. To do this, the operator sets the flow of chloride according to stock bleachability (lbs. of chlorine/ton of pulp). This has the advantage of direct control over bleaching and also eliminates the need for a hypochlorite storage tank in the control system.

In either case, the controlled flow of chlorine is fed under pressure to the injector. Alkali feed to the injector is controlled by an instrument for measuring oxidation-reduction potential. Selection of the proper redox millivoltage set point establishes the ratio

o Patent Pending



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The Carpenter Steel Company, Alloy Tube Division, Union, N. J.

Export Dept.: The Carpenter Steel Co., Port Washington, N. Y .- "CARSTEELCO"



of excess alkali to available chlorine in the product. The instrument maintains that potential (or ratio) by adjusting alkali flow as chlorine flow changes. Thus, the operator adjusts the system to meet the stock hypochlorite demand and includes the alkali buffer, if desired, in one easy operation. Successful operation may also be accomplished by level control of alkali and redox control of chlorine.

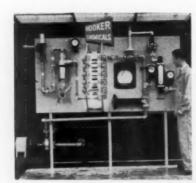
A continuous supply of constant strength dilute alkali must be available. Both conductivity and gravity measurement have been successfully used for close control of caustic dilution in automatic sodium hypochlorite systems. Gravity measurement is used for control of lime dilution in the calcium hypochlorite system.

HOW IT OPERATES-The flowsheet in Fig. 1 represents the fully integrated system for calcium hypochlorite production. An efficient continuous method of eliminating lime solids and dirt from finished bleach liquor is incorporated. This is accomplished by classification of finished liquor in a liquid cyclone such as a DorrClone. This permits maximum utilization of all lime and chlorine going into the process under most conditions.

Dilute lime slurry and chlorine gas are simultaneously fed into a speciallydesigned Hooker injector. The reaction is complete after the liquor passes through a properly-sized reactor section. The liquor then flows through one or more DorrClones where it is classified. Heavy underflow from the cyclone(s) is returned to the lime slurry pump suction for recycle. This underflow contains unreacted, suspended lime particles and non-lime particles larger than 50 microns. During recycle, the heavy lime particles are continuously broken down by reaction with chlorine and are ultimately consumed. Overflow from the cyclone passes through an electrode cup for measurement of the oxidation-reduction potential and then flows directly to the hypochlorite storage tank.

Finished bleach liquor, unless buffered, contains no suspended lime (1.5 grams per liter or less alkalinity, all dissolved). Suspended non-lime solids on the order of 0.2% or less are extremely fine, giving the semi-clarified bleach liquor a translucent appearance. Further clarification is possible (but not necessary) by using smaller, specially designed liquid cyclones for final classification.

When semi-clarified liquor is utilized for bleaching, the minute fraction of extremely fine suspended solids will easily wash out of the pulp. During bleaching tests with this liquor, no evidence has been found of a decrease



FULL - SCALE DEMONSTRATION UNIT at Hooker Electrochemical Co's Tacoma, Wash., plant. ARTHUR D. JOHNSTON, of Hooker process study group, observes chlorine control.

in brightness or an increase in ash content of the pulp compared to treatment with ordinary clarified bleach

The sodium hypochlorite system is essentially the same as shown in Fig. 2. It is simplified to the extent that classification is not necessary. Recycling is optional, and conductivity control may replace density control of alkali dilution.

CONCLUSION-The system scribed is simple, inexpensive, and is truly automatic and continuous. Maintenance and instrument care is normal. Caution must, however, be exercised in the selection and layout of the equipment to derive optimum benefits. Unsuitable instrumentation and equipment have led some to erroneous conclusions regarding reaction times and injector action. Capital and labor savings are substantial while chemical losses are practically eliminated.

#### Ads in Trade Papers Broke Ice

Central Paper Co. salesmen selling 'Safetex" box tape, a brand born in the Fall of 1954, met stone walls, wrote no orders until the product was advertised in business papers. Ads broke the ice, created interest, opened doors for salesmen. The company obtained five-state distribution, more than a dozen industrial users (including one of the world's largest food manufacturers) in three months.





Ralph Bergstrom Is Promoted; Wilkinson Advances in Scott

RALPH E. BERGSTROM (left), recently RALPH E. BERGSTROM (left), recently promoted to Mgr. of Swenson Evaporator Co., div. of Whiting Corp., Harvey, Ill., after heading Pulp and Paper Div. of Swenson for several years. Known in mills from Coast to Coast, Mr. Bergstrom was raised in the Chicago area and is a graduate of Armour Inst. He has written several articles on pulping proces

DARCY P. WILKINSON (right), former DARCY P. WILKINSON (right), former Plant Mgr. of Marinette Paper Co.'s Fort Edward, N. Y., mill, and more recently Administrative Asst. to Harrison Dunning, Scott's Vice Pres. in charge of Operations, has been named Scott's first Regional Mgr. of Mfg., a new post created because of Scott's rapid expansion. Mr. Wilkinson will be responsible for operations of six Eastern plants—Chester, Pa., Madison, Me., Winslow, Me., Ft. Edward, N. Y., So. Glens Falls, N. Y., and Hoboken, N. I.

#### 1956 May Bring Industrial Noise Laws

• The year 1956 is likely to bring new laws and regulations, or legal interpretations of existing ones, aimed at reducing industrial plant noise hazards. Top industry management in both U.S.A. and Canada is putting top priority on research aimed at reducing machine room noises.

New York and Wisconsin have had court decisions upholding workers' rights to scheduled awards for partial loss of hearing caused by a noisy work environment-not necessarily by any single accident. But a N.Y. workmen's compensation board ruling requires the worker to be away from his job six months before he can be compensated. New medical findings might change this ruling, however.

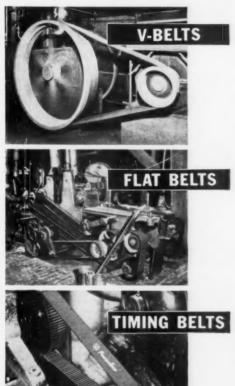
Wisconsin amended its law so the worker now must show he was transferred or discharged because of hearing loss or else had to quit the job because of impaired hearing. Studies show new workers may be irritated or wearied by noise, but nearly all become adapted to expected and continuous noises.

Not only mills such as Powell River, Scott, International Paper and others are making noise control a major research goal, but also builders of papermaking machinery are doing so. Beloit Iron Works is one firm which has had staff men especially assigned to this work.

One of the most interesting solutions, devised by Powell River's Charles Walker, is a pattern of holes in a thin micarta strip, which is placed where the sheet leaves the couch. Sounds are deadened through these holes.

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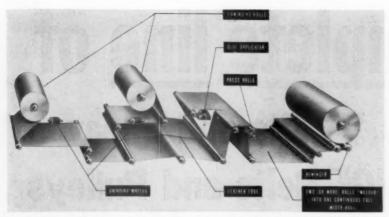






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HERE'S HOW OLIVER WEBWELDER JOINS side rolls into single marketable roll.

## Turning Side Rolls into Profit

New Webwelder joins rolls of .009 corrugating medium at Southern Extract Co.'s Knoxville mill

By EDWIN R. HOYT\*

 Under all but exceptional market conditions, side rolls have always been an economic problem to papermakers, Repulping is costly and wasteful. And on the market, side rolls often bring a reduced price.

An obvious answer to this problem would be a heavy-duty machine capable of joining these side rolls to produce a single, marketable roll of uniform tensile strength and caliper. With the successful commercial demonstration of the Oliver Webwelder in early 1955 at Southern Extract Co. mill at Knoxville, Tenn., this solution became a reality.

Southern Extract, and its affiliated company, The Mead Corp., first became interested in the Webwelder while the unit was still in the development stage. Their primary concern was the joining of .009 corrugating medium. Many tons of this product were shipped to the Dorr-Oliver West Coast Research and Development Laboratory in Oakland for test purposes. The chances of successful commercial production seemed assured, and it was agreed that the first full-scale Webwelder would be installed

at the Southern Extract Knoxville mill on a trial order basis.

This unit, manufactured in the Oakland shops of Dorr-Oliver, was completed in late 1954, and installed at Knoxville in 1955. The unit covers a floor area approximately 14 ft. by 28 ft., plus surrounding service area and sufficient head-room for top-mounting of side rolls in unwind stands. It will permit a maximum finished trim of 85 in. width, will accommodate roll diameters up to 50-in., and is designed to operate satisfactorily at a speed of 500 fpm and may be operated at higher or lower speeds.

HOW IT WORKS—Two webs of paper are led from backstands equipped with water-cooled brakes through an easily threaded series of web support rolls to a heavy-duty rewinder and slitter. During approximately 80% of the webwelding operation, the webs of the two side rolls do not come in

contact with each other. However, side rolls are placed in the backstands and led through the machine in a manner which permits them to overlap approximately ½ in. when they are finally joined into a full width sheet. Side-register and web tension, plus machine speed and other unit operations are controlled electrically by the operator from a central push-button control station.

Each web of paper passes through a slitter unit where a very narrow ribbon is slit off to straighten untrue rolls and assure accurate side register control at the seam. Each web of paper then passes through a precision grinder assembly, which accurately grinds off an area approximately ½-in. wide to a thickness slightly under ½ original caliper.

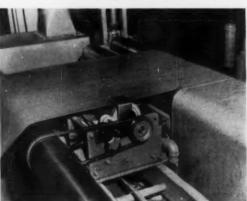
Immediately before the ground edges of the two webs are joined, one of the ground edges passes through a precision adhesive applicator assembly which applies an accurately controlled film of adhesive to the ½-in. ground edge only. By very accurate control of grinding depth and adhesive film width thickness, the caliper at the seam, when compressed into position, equals the caliper of the remainder of the sheet.

After compression into a single sheet, the full width web passes on to a heavy-duty rewinder where it is side trimmed accurately to customer specifications. It is interesting to note that any width desired may be webwelded so long as the maximum width of 85-in. is not exceeded.

ORIGINALLY FOR NEWSPRINT-

Despite the fact that the first commercial unit at Southern Extract was designed for joining corrugating medium, initial work centered around newsprint. A paper shortage of the late 1940's prompted Don H. O'Kane, president and publisher of the Eureka Newspapers Inc. in Eureka, Calif., to finance development of a unit for joining newsprint side rolls. As a result, the Donok Co. was formed

GLUE APPLICATOR coats one web just before contact with other web, Caliper at seam, when compressed into position, equals caliper of rest of sheet.



\*Edwin R. Hoyt designed the original prototype of the Webwelder in 1951. It was his idea for a unit which could join side rolls into a single marketable sheet, coupled with the desire of Don H. O'Kane, publisher of Eureka Newspapers Inc., for a dependable source of newsprint, which led to formation of Donok Co. in 1951. From that time until Dec. 1, 1955, Mr. Hoyt was responsible for the Dorr-Oliver Webwelder development. He is now in Monterey, Calif., engaged in development of paper mill equipment.



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in 1951 in Ashland, Ore., and by late the same year a 20-in, width machine was developed and operating. This prototype of today's Webwelder was designed to join up to three narrow side rolls into a single 20-in, roll.

During initial development, the end product was not always satisfactory. Weakness of seam, bonding of several layers together when wound in a roll and frequent web breaks during unwinding were the most common problems. However, by January 1952, completely satisfactory newsprint was being produced. Laboratory tests proved the seam to be as strong or stronger than the remainder of the web, caliper was identical and appearance and printing characteristics were excellent.

During late 1953, Dorr-Oliver Inc. became interested in developing the small Donok prototype into a full-size machine. Simultaneous with the purchase of rights to the Donok prototype, Dorr-Oliver secured rights to a similar machine built by Elk Paper Co. of Elkton, Md., to skive and join together two side rolls of corrugating medium into a single, finished roll. The best features of each of these machines were combined, many improvements were added and by early 1954 the full-size Webwelder had been designed.

During the course of the Dorr-Oliver development program it was found that all types of papers could not be webwelded by a single standard machine. For example, a Webwelder designed for longitudinal joining of side rolls of .009 corrugating medium, and heavier grades of paper-board required design features and tolerances differing from those required in a machine intended for the webwelding of lighter papers.

Meanwhile, market survey results indicated that immediate efforts should be concentrated on the development and marketing of a machine designed for webwelding .009 corrugating medium and heavier grades of paperboards as the trade's need was greatest in this area. Accordingly, the design was finalized and the Southern Extract unit put in construction.

#### Good for Paper Industry-

While on the recent 5,000 mi. tour of western pulp mills with the Pulp Consumers, Mrs. Ralph (Kay) Powers, wife of the president of Robertson Paper Box Co., Montville, Conn., wrote postcards to every one of 17 grandchildren. She accidentally doubled up on one—had to write them all again. Then she found an Indian card she couldn't resist for the boys for a third round. So she was in a jam again—had to find one for all the girls, too.

## ACE rubber and plastic products



choice of general-purpose rubber-plastic

blend, Ace Parian (polyethylene) or Ace

Saran. Handles most corrosive chemicals

and food ingredients. Sizes 1/2" to 2",

50 psi. at 77° F. Bulletins 80 and 351.

AMERICAN HARD RUBBER COMPANY 93 WORTH STREET - NEW YORK 13, N. Y.

Excellent chemical-resistant, all-purpose

flexible plastic tubing. Sparkling clear,

easy to clean, odorless, non-toxic, can be

steam-sterilized, 1/4" to 1" ID. Bul. 66.



#### Corrugated Replaces Wood Veneer Baskets

The old wood farm basket has run up against some city slicker competition. It's a half-bushel corrugated board container (shown in picture) 30% lighter, 5 to 20 cents per unit cheaper and designed to take up 15% less space. Farmers and produce shippers are using the corrugated containers to replace the familiar wood veneer basket, particularly for roadside stand sale and market display.

The corrugated containers, in contrast, are colorful, may carry advertisements and eliminate hazards of damage to clothing or car upholstery or injury from splinters, etc. Successful with this container for fruit is Lawrence Paper Co., Lawrence, Kan., producers of a half-bushel basket called Conveno-Pak, which is made of a humidity-resisting corrugated material, produced by Lawrence under trademark of Freezurboard.

# PULP & PAPER

#### NEW PAPER USES



#### No More Cleaning Garbage Cans

A new chemically-treated garbage can liner, shown here, eliminates garbage can cleaning and simplifies collection. It was introduced by Hammond Bag & Paper Co., Wellsburg, W. Va. Called "Sani-Liner," it is capable of handling 50 pounds of refuse when wet. Extensive tests were made by refuse collectors in the Pittsburgh, Pa. area, and not a single bag failed. Retailed in packages of 6 at suggested price of 59 cents.



#### Paper Pack Replaces Wood

Quantity packaging and distribution requirements demands an efficient package. That's the principle that prompted the S. D. Warren Co., Cumberland Mills, Me., producer of fine printing papers, to adopt a new telescope corrugated box allowing the firm to roll off more than a thousand packages a day.

Hinde & Dauch, Sandusky, O., and the S. D. Warren combined to design the new shipper, a flat easy-to-handle unit that has cut weight and size of the Warren packages, speeded assembly, packing and shipping time, and improved identification—all with no sacrifice in product protection. Replacing heavy wooden cases, the new corrugated boxes feature special triple-thickness corner construction to guard against crushing in transit and a unique asphalt-laminated outside liner to protect the paper stock against moisture damage.

#### Expanding Kaukauna And Gary Operations

American Linen Supply Co. of Chicago, which originated many years ago in Salt Lake City, Utah, and has spread into several countries, has recently become owner of paper mill and converting companies in Wisconsin and Indiana. Plans for expansion are underway for both mills.

Badger Tissue Mills, Kaukauna, Wis., a converting plant, and Beverly Mills, Inc., Gary, Ind., 50 tons per day paper mill, were the new acquisitions.

The industry recalls the Gary Mill, formerly Superior Newsprint, as a plant which in recent years caused some stir with news of new deinking and newsprint production processes, since abandoned. It now makes paper toweling, which will be shipped to Kaukauna for converting. The Gary

plant has a 119-in. Fourdrinier and a Denver Equipment flotation process deinking plant.

Steiner Paper Mills is the new name of the Gary plant.

American Linen in shutting down a converting plant it has in Utica, N.Y., and shipping the equipment to Kaukauna to enlarge its operations.

Badger will continue under its old name, but a new Steiner Co. Inc., within American Linen Supply Co., is being organized for papermaking and converting operations. Frank G. Steiner is president of American Linen and the other companies.

Lewis Nelson, general manager at Kaukauna since 1917, has retired, and his assistant, Edward P. Lemke, has succeeded as resident manager. Harry D. Conkey continues as production mgr.

Paul Jesperson is vice president and gen. mgr. of the Steiner companies and Jonas H. Meyer is vice president in charge of Steiner Sales Co., an American Linen subsidiary which has handled paper towel dispenser sales.

#### New Champion Grade

Champion Paper has announced a new grade: "Chalice Opaque." A sixpage, four-color lithograph is available from merchants or by writing the advertising dept. of Champion, General Office, Hamilton, O.

#### **New Coating Process**

The American Paper & Pulp Assn, New York, will loan a translated report to members on a new Swiss coating process which does full-sizing, waterproofing, is not subject to swelling and gives a pliable surface with good glaze and brilliance (FSR 156, Bern, Switz.).

### How Pumps Reduce Coating Costs

By GEORGE E. SHAFFER, Jr.

• Paper mills have a gargantuan appetite for chemicals and additives of many types. This is particularly so in paper coating processes. Less additive is required in coating processes to produce the same effect as direct stock addition. This property is used to advantage in coating processes for fire proofing, water repellence, mold proofing and the addition of special sizes, such as glassine size used to impart special properties to the finished paper sheet. On the other hand, conversion processes are often used to apply coating weights as much as twice as great as the base weight of the paper sheet.

In all these processes, close control of coating weight depends upon accurate metering of relatively small quantities of additives. Controlled volume pumps provide the economical flow control approach to metering these low capacity flows (0-10 gpm). They accurately handle such diversified materials as glue clay slurries and water-like materials such as detergents and soluble dyes, all with the same precision. The end results are reduced chemical costs and improved

product quality.

Machine coating applies a thin coating to a damp paper sheet. Controlled volume pumps meter small quantities of additives to the machine size presses in proportion to machine speed. Since the sheet travels at 1,000 to 2,000 fpm, only a thin coating of chemical can be absorbed. An insufficient amount of reagent results in undertreatment while an excess is wasteful. Controlled volume pumps accurately control reagent concentration within these extremes and insure uniform chemical distribution over the

HOW MIDWEST TISSUE MILL USES PUMPS—Fig. 1 shows three typical controlled volume pump applications a large Midwest mill used to solve these low capacity flow control problems.

In these applications a controlled volume pump fixes the quantity of additive going to the press. The pump accurately meters a small quantity (maximum of 60 gph) of concentrated reagent directly into a water line, which then delivers dilute reagent to

OATING AGENT CONTROLLED VOLUME PUMP CONTROLLED VOLUME PUMP BLOW ROLL DRYERS DRAW ROLL PAPER SUCTION соисн ROLL ROLL SUCTION PRES SUCTION FELT CONDITIONER CONDITIONER WRINGER ROLLS WRINGER ROLLS CONTROLLED VOLUME PUMP

FIG. 1. MACHINE PRESS SECTION IN MIDWEST U.S. TISSUE MILL, showing three typical controlled volume pump applications.

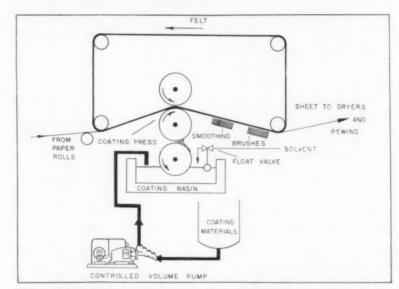


FIG. 2. CONVERSION COATING IN LARGE NORTHERN U.S. MILL, showing continuous coating make-up system.

the press. This system conserves space since the concentrated reagent is stored in its original container, thus facilitating the chemical handling problem. Another distinct advantage to producing dilute reagent only as needed is the elimination of large dilute reagent storage tanks and the attendant problem of mold and slime growth which is almost completely inhibited in concentrated solutions.

In addition to reagents which improve paper characteristics, others are used to improve processing techniques. Wetting agents, added at the press rolls in this system, promote uniform dispersion of additives and

increase their retention on the paper sheet. They also prevent the rolls from picking or mottling the sheet. A controlled volume pump with a maximum capacity of 5.4 gph is used in this system to meter these low capacity flows. Superior quality control and economical reagent usage are normal results of this control technique.

CLEAN FELT IMPORTANT FOR QUALITY PAPER—Since white water and all excess reagents pass through the felt, impurities tend to collect there. This promotes mold and slime growth as well as felt deterioration and results in spotted paper. To safe-

Mr. Shaffer is with Milton Roy Co., 1300 E. Mermaid Lane, Philadelphia 18, Pa. He is a graduate of Drexel Institute, served in Air Force in WW II.

















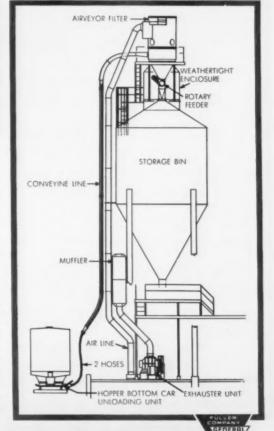
Facts are hard to beat and it's a fact that bulk materials-moving-from cars or trucks to storage . . . and on to process-is a vital part of your operation, demanding top efficiency if your production is to be maintained or increased. The system(s) you are now using may be taking a costly annual toll in lost time, lost production and excessive maintenance. Take a good, close look and you may be surprised to find that your materials handling operation is now, or is becoming a bottleneck-the slowest ship in your production convoy.

If you handle raw chemicals, bakers' ingredients, brewers' grains or other materials of similar consistency, you'll be interested in the facts about Airveyor, the Fuller system that has put air to work in hundreds of installations across the country and Canada.

Fuller experience in harnessing air to move dry materials spans more than a quarter of a century and covers the widest variety of applications. Take the first step toward putting this experience to work for you by letting us make a study of your operation. It costs nothing and may well light the way to greater production at less cost.

#### **FULLER COMPANY** 128 Bridge St., Catasauqua, Pa.

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For Bleaching			For Water Treatment	100	
Additive	Quantity	Purpose	Additive	Quantity	Purpose
50% peroxide Silicate	2.7 gph 96 gph	Bleach preparation	Alum Siticate	218 gph 6.8 gph	Raw water clarification Clarification aid
Sulfurdioxíde (liq)	$4.5~\mathrm{gph}$	Bleached pulp neutralization	Germicide Antifoam	3.4 gph 3.4 gph	Slime control Foam control
Milk of lime	258 gph	Hy ochlorite bleach	50% caustic	23 gph	Waste sulfite neutralization
32% sodium chlorate	182 gph	preparation Chlorine dioxide	Alum Glue	59 gph 5 gph	pH control at saveall Coagulant aid
Concentrated sulfuric acid	102 gph	preparation	Sodium sulfite Sodium Phosphates Caustic	3.4 gph 7.3 gph 3.4 gph	Oxygen scavenging Boiler scale prevention Boiler alkalinity contri
For Stock Preparation	1.0		For Coating Processes		
Dye solutions 50% alum	41 gph 120 gph	Color stock pH control and size	Calgon phosphate	5.4 gph	Size dispersion (pick control)
Starch solution	7.3 gph	mordant Size	Glassine size	2.7 gph	Enhance surface of paper sheet
Phosphoric acid Wet strength resin Glue Germicide Defoamer	7.3 gph 164 gph 5 gph 6 gph 6 gph	Brightness control Increase wet strength Flocculation aid Slime control Foam elimination	Detergent Sodium propionate Dye solution Methanol Rosin emulsion	7.3 gph 6 gph 5.2 gph 15 gph 52 gph	Felt maintenance Mold prevention Color sheet Size solvent Improve strength
Paper M	ill Applicat	ion Check List	<ul> <li>Pulp and Paper, Vol.</li> <li>Paper Industry, Vol.</li> </ul>		

guard against these contingencies, the third pump meters liquid detergents to the felt wash water. In most installations a maximum of 5 gph of detergent is required to completely remove all chemical and abrasive particles. Longer felt life, increased operational runs and reduction of seconds are all important end results of this system.

### HOW NORTHERN MILL USES PUMPS FOR CONVERSION COAT-

ING-Conversion processes are used primarily to apply heavy coatings to preformed sheets. These systems usually consist of a coating storage basin and a means of transferring the coating to the sheet. A large Northern mill used the system shown in Fig. 2 to control coating weight. The quality of the finished sheet depends on several variables easily controlled by controlled volume pumps. In the system illustrated, the weight of coating applied depends on three variables, namely: liquid level, ratio of various ingredients (size, filter, dye, etc.) and density (solvent concentration). In this system, the pumps add make-up solids (size, filler, dye) in direct proportion to machine speed since these ingredients are depleted in proportion to area of surface coated. A liquid level controller (float valve) then adds sufficient solvent to maintain a constant level in the storage basin. The combination system thus controls density.

Controlled volume pumps in this process offer several advantages. A minimum of prepared coating is required at a specific time, make-up is prepared only as needed and process changeover results in a minimum of loss or storage. This is important at

GEO. E. SHAF-FER Milton Roy Co.—"Flow control in coating processes reduce chemical costs and improve product quality."



this mill since they run job lots of one to five days' duration and on the shorter runs the reduced coating waste is a prime consideration.

These pumps are used to advantage in many phases of papermaking. The "Paper Mill Application Check List" shows many additives now handled with controlled volume pumps and indicates the quantity of additive used in one specific application. The capacities required vary so widely from installation to installation that generalizations cannot be made. Each installation is individually engineered to produce the proper combination of controls over a specific process.

#### Kimberly-Clark Seeks Further Uses of Atom

Kimberly-Clark's Research and Development Center, has begun a program for further uses of atomic energy and by-products.

Two major programs include AEC permission for purchase of radioactive chemicals for experiments and possible participation in an industrial research reactor with Armour Research Foundation.

K-C's "Cooperation" says if AEC

agrees, some Kimberly-Clark researchers will take a course at Oak Ridge Institute of Nuclear Studies.

K-C is giving attention to atomic energy for power. It hopes permission is granted to study use of radioactive materials in paper coating and films, work on absorbency, measurement of resins, process control and fluid mechanics.

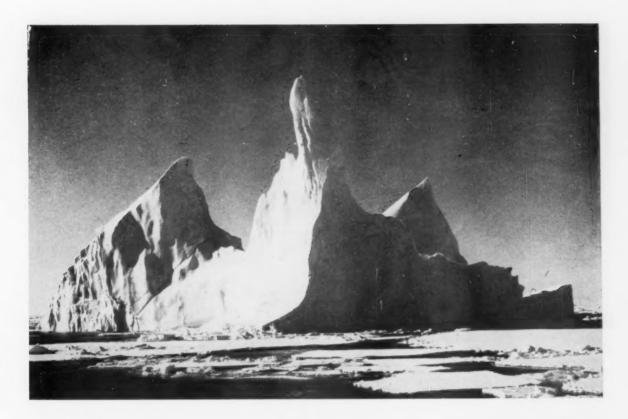




Joins Hoad Consulting Firm; Heads Operations in Mexico

CHAS. WILLIAM (BILL) CASSELL (left), with over 20 years as Chief or Plant Engineer and in technical work in paper mills, has joined John G. Hoad & Associates, Consulting Engineers, Ypsilanti, Mich., a company which has become active in pulp and paper expansion. Mr. Cassell was Chief Engr. at Everett (Wash.) Pulp & Paper (now Simpson) for 5 years, was recently Asst. to Pres., Deerfield Glassine Co. Had also been Plant Engr. for Bryant Paper in Kalamazoo, Tech. Dir. and Asst. to Gen. Supt., John Strange Paper. Graduated from Purdue.

MITCHELL THOM (right), native of North Dakota and former Supt. of a Victoria, B. C., mill, is Prod. Mgr. of the newly acquired Mexico City operations of Empaques de Carton "United" S. A., Etzatlan 25-A, Apdo Postal 17421, Mexico City. He has managed board mills in Guatemala and Mexico and directed this same plant under former owners, United Shoe & Leather Co.



## "ICEBERG" and "ICEBERG K" PIGMENTS

## DOLLAR SAVINGS BY USING ANHYDROUS ALUMINUM SILICATES (Kaolin Type Clay) REPLACING TiO<sub>2</sub>.

By using approximately three pounds of ICEBERG or ICEBERG K pigment to replace one pound of TiO<sub>2</sub>, the following saving can be realized. It is important to keep the ask content the same by cutting back on other fillers such as coating clay or filler clay when increasing the amount of brightening filler.

Saving Per Pound TiO<sub>2</sub> Eliminated Approximate Delivered Cost Per Pound:

Burgess Iceberg Pigment	iting Clay	015€
Burgess Iceberg K Pigment04¢ TiO:	2	24 €
ITEM	co	ST
	Iceberg	Iceberg K
Burgess Product (3 lbs.)	.096	.120
Coating Clay (eliminate 2 lbs.)	.030	.030
Total Cost:	.126	.150
TiO <sub>2</sub> (1 lb. eliminated)	.240	.240
CAVING	114	0.0

Low Cost

#### **Brightening Agents**

Replace costly white pigments in-

- · Bleached manila lined board
- · White patent coated board
- Ground wood and/or sulphite furnishings

Write for working samples and prices.

# Burgess Pigment COMPANY

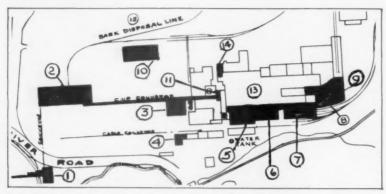
Mines and Plants: Sandersville, Georgia

EXECUTIVE SALES OFFICES: P. O. BOX 145, SANDERSVILLE, GA.
West Coast: L. H. Butcher Co., San Francisco & Los Angeles, Cal.
Warehouses: Jersey City & Trenton, N. J.; Saylesville, R. I.

- HYDROUS AND ANHY-DROUS ALUMINUM SILI-CATE PIGMENTS
- KAOLIN CLAYS

# PULP & PAPER

#### NEWS FROM CANADA



PRESENT PRODUCTION WILL BE DOUBLED at Dryden Paper Co's. Ontario mill when \$11,600,000 expansion program is completed. Map indicates where new construction is under way (black areas) and general layout: 1. Slasher mill; 2. Woodroom; 3. Causticizing plant; 4. Office extension; 5. Washer building; 6. Bleach plant; 7. Chemical plant; 8. Loading and shipping; 9. Finishing and shipping; 10. Water filtration plant; 11. Digesters; 13. No. 1 machine; 14. Transformers; 15. Bark disposal line.

NEW MACHINE ORDERED—Dominion Engineering Co. has been given an order for the 178-in. Minton dryer to be installed at British Columbia Forest Products' 425-ton bleached sulfate mill being built at Crofton, east coast of Vancouver Is-

land. Capacity of the dryer, which will be somewhat similar to the one being supplied by Dominion for the Hinton, Alta., mill of North Western Pulp & Paper Co., although larger, will have a rated capacity of 480 to 500 tons. Combustion Engineering Inc., will supply the recovery boilers for the Crofton mill, and washers and deckers are being built by Sherbrooke Machineries (Impco). Construction at Hinton has been slowed by winter weather conditions. Cement-pouring for building floors and foundations and other interior phases of the project is being expedited.

NEW DORR-OLIVER-LONG FIRM

—A new company, Dorr-Oliver-Long,
Ltd., has been organized to integrate
Canadian interests of Dorr-Oliver
with E. Long Ltd., at Orillia, Ont.,
according to J. D. Hitch, Jr., president of Dorr-Oliver Inc. Clarence R.
Long, director of Dorr-Oliver Inc. and
president of E. Long, Ltd., will be
president of the enlarged organization, with headquarters at Orillia. The
former Toronto office of Dorr-Oliver
and the Vancouver office of E. Long
will operate as divisional offices.

production RISE — Woodpulp production in Canada during the first 11 months of 1955 totalled 9,149,470 tons for an increase of 411,234 tons or 4.7% from the corresponding figure in 1954. Chemical pulp output which accounted for most of the increase amounted to 4,075,512 tons, an increase of 291,473 tons or 7.7%. Total pulp exports for the 11 months was 2,174,191 tons, compared with 1,999,219 tons during the period in 1954.

PAPER CRITICIZES DUPLESSIS-When Premier Maurice Duplessis of Quebec recently undertook to penalize newsprint companies for raising prices he probably imagined that he had become a hero in the eyes of newspaper publishers. But one Canadian newspaper, the Vancouver Province, outspokenly condemned the Duplessis plan to hobble the newsprint industry with controls. In an editorial, The Province points out that, it hasn't liked the increase in the price of newsprint, "but we like Premier Duplessis' reaction to it a great deal less," the newspaper declares.

MORE WASTE WOOD NOW USED—Norman Terry, president of Canadian Sumner Iron Works, Vancouver, B. C., told a Dominion forest research meeting in Ottawa that in British Columbia the integration of pulp-mills with other forest industries had made it possible for sawmills, plywood plants, etc., to secure an economic return from over 90% of their raw material. It was up from 60% some years ago.

LARRY T. WELCH, formerly of research, Howard Smith Paper Mills at Cornwall, Ont., has joined its pulp sales in Montreal.

## Greater Production of Higher Quality Pulp

- in Less Time
- · at Lower Cost

This is the end result of the various processes and equipment which we have installed in pulp mills throughout North America. Send us details of your requirements.

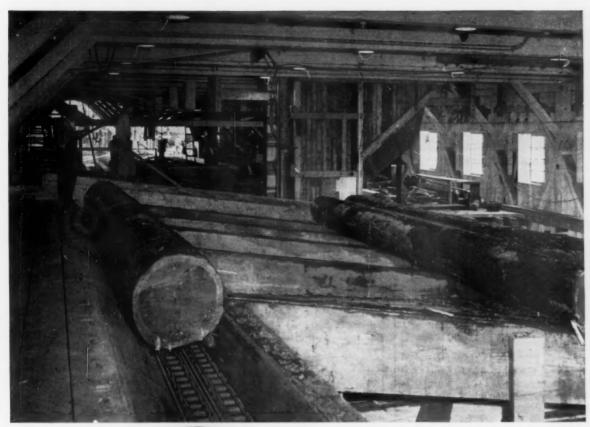
Chemipulp Process Inc.
Woolworth Bldg. Watertown, N. Y.

Associated with Chemipulp Process Ltd., 403 Crescent Bldg., Montreal

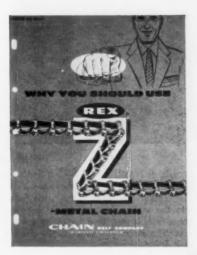
West Coast

A. H. Lundberg
Orpheum Bidg., Seattle

Lundberg-Ahlen Equipment Ltd. 146 E. Broadway, Vancouver







Here's a typical example of the way you can cut costs...get better service with Rex Z-Metal Chains in your mill.

On this transfer conveyor, standard malleable chains needed replacement every 15 months. It was replaced by a Rex Z-Metal Chain. Z-Metal operated for more than four years before it needed replacement.

This isn't the unusual story. It's typical of the ability of Rex Z-Metal Chains to withstand the pounding of logs...the heavy loads...the abrasive sliding service. Many mills have had even more success with these rugged, long-lasting chains.

Rex Z-Metal Chains are available in all styles used in the forest products industry...fit over the same sprockets as standard malleable chain. Why not get the complete story on how you can get more for your chain dollar? See your CHAIN Belt Man or Distributor, or write for your copy of Bulletin No. 53-56. CHAIN Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wis.

## CHAIN BELT COMPANY

District Sales Offices and Distributors in all principal cities



e Edited by GEORGE BLACK

#### **AKH #3 NOW AVAILABLE**

How to maintain close dimensional accuracy, fine interior and exterior finish and uniform soundness in the casting of a 1½ lb. stainless steel instrument housing is told in the latest case history in the Cooper Alloy Advanced Know-How series. Ask for AKH #3 and get the full story on the use of shell mold and shell cores in the production of one of those "impossible" castings.

#### **BUNA N FITTINGS**

Vanton's line of Buna N and natural hard rubber fittings is described in a newly revised four-page condensed catalog. Diagrams, dimensions, and application data are included. Ask for Bulletin BN.

#### INQUIRIES AT ALL TIME HIGH

The demand for technical literature of value is on the increase. Our librarian reports more than 20,000 individual pieces of literature requested during the past twelve months, and we're glad to know that we are serving the needs of so many plant operating and purchasing people. For a quick glance at the most recent publications available on request, write for Technical Literature Folder TL56.

#### OUR FACE IS STILL RED

We're still apologizing to the many people who have requested our deluxe stainless steel valve and fitting catalog. The demand not only exceeded our supply but our ability to process them as well. Even with daily overtime and Saturday work we still haven't caught up with requests . . . so please forgive us if you're one of those on the waiting line.



COOPER ALLOY
CORPORATION - HILLSIDE No.

#### EQUIPMENT AND SUPPLY NEWS

THE PUSEY & JONES CORP. has initiated an expanded reesarch and development program, to effect savings in operation throughout the entire line of Puseyjones papermaking machinery, according to DANIEL M. PIERCE, president and general manager. This department will concentrate on new products and improvement of present products. Heading the group is EDWARD A. HODGE, vice president. Recent developments by the group have been put into operation in a large Eastern mill. Phone or write RALPH S. JOHNSTON, vice president, Pusey & Jones Corp., Wilmington 99, Del. Telephone: Wilmington 6-8281

RELIANCE ELECTRIC & ENGINEER-ING CO.'s new four-page bulletin "How to Care for Jr.," just published, describes and illustrates the simple, but comprehensive program available to keep Reliance V°S Jr. Drives in operation at peak efficiency. Prepared primarily for maintenance engineers, the bulletin explains the complete line of services and parts available for these electronic variable-speed drives.

MINERALS & CHEMICALS CORPORATION OF AMERICA has moved its entire Philadelphia, Pa., and Metuchen, N. J., operations to new general offices at Menlo Park, New Jersey. Telephone, Liberty 8-2200. Transfer of research facilities from McIntyre, Ga., and other locales to the new Minerals Research

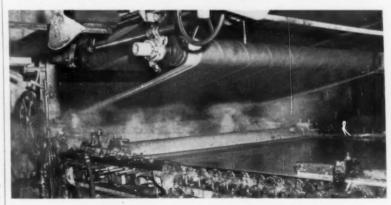
Center at Menlo Park was accomplished in January.

D. J. MURRAY MFG. CO. announces a complete line of pulpwood screens for pulpwood sticks, sawmill slabs, edgings, planer trimmings, round wood or veneer cores or a combination of both. They are described in new booklet MC-1155-C.

RAYBESTOS-MANHATTAN, INC., issued a new catalog of corrosion, abrasion, and contamination resistant rubber linings for tanks, pipe, valves, and similar storage and process equipment. Write to Manhattan Rubber Division, Passaic, N. J. for No. 7115.

YARNALL-WARING CO. has added to their line of impulse steam traps a new No. 40 Series, specially designed with high capacity to handle heavy condensate loads. Capacities are approximately two to three times that of the same size standard No. 60 Series Yarway impulse steam traps. This newest trap includes high capacity at all pressures up to 600 lbs. A 60-day free trial is available. Write, for trial and Bulletin No. 1746, to Yarnall-Waring, Philadelphia 18, Pa.

SIGNODE STEEL STRAPPING CO. offers a carloading check chart for anchored loads; designed for shipping room and loading dock personnel. Write for copy to 2600 North Western Ave., Chicago 47, Ill.



#### **Helps Speed Up Machines**

Dupasquier dripless steam shower box shown here, installed over "dry" suction box of a Harper type machine producing crepe toweling, makes for increased machine speed by preheating web ahead of dryers.

This new machine auxiliary, companion product of his dripless steam shower, was developed by J. H. Dupasquier, Gladstone, Ore. To date it has been successfully used for producing paper and board products ranging from 32 to 375

pounds. It is installed at the last suction box (or couch) about %-in. above the wet mat. This steam, drawn through the mat into the suction box, reportedly lowers viscosity of water, thus increasing freeness. The steam also preheats the sheet so it is hot when arriving at the dryers. A Fourdrinier machine producing 84-lb. corrugating was speeded up 35 fpm.; another, without suction couch, running 34-lb. toweling, increased machine speed 43 fpm.

#### helping you is our aim

Getting more paper off the machines—without compromising quality— is the challenge facing many mill operating people today. It's a tough job, but your customers' growing requirements must somehow be met.

As we see it, helping mills operate at peak production should be a *regular* service from every good supplier. Teamwork is needed now more than ever before.

A working partner with the paper industry for many years, we offer our resources to help make your tough job a little easier . . . intelligent field representation—competent research facilities—experienced design service—modern felt-making machines—and the devoted skill of our craftsmen.

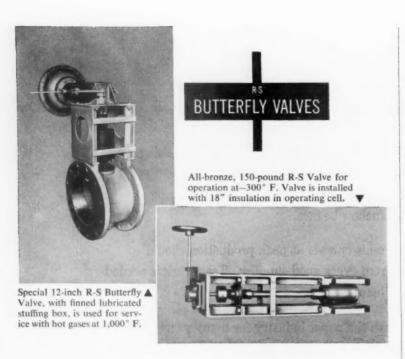
Father and Son Team—It takes more than our modern, precision machines to make felts you can depend on. It takes men and machines . . . craftsmen like Frank and Harold Drexler whose combined 75 years of felt-making experience and devoted skill pay off for you on the paper machine.



# Appleton felts

APPLETON WOOLEN MILLS

a working partner with the paper industry
APPLETON, WISCONSIN



#### SPECIAL R-S VALVES SOLVE TEMPERATURE, CORROSION, ABRASION PROBLEMS

To meet rugged processing conditions, R-S Butterfly Valves can be built to your requirements. For valve bodies and parts, any metal or other material that can be cast or welded — even plastics — may be specified.

There are a number of materials available to meet extreme working conditions involving corrosion, abrasion, erosion, high heat and pressure. In addition, the **R-S** Rubber-lined Valve may be specified to resist certain types of corrosion. Every R-S Valve gives you quick and positive closure with any type of controls, uniform control in normal regulating ranges and minimum pressure drop.

If your past experience offers no precedent, you can call on our background in specialized valve engineering to solve material problems.

We have built valves to operate in a temperature range of from  $-300^{\circ}$  F to  $+2,000^{\circ}$  F. For complete information on our complete line of butterfly, ball and cone valves, see our local representative or write S. Morgan Smith

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VALVES

FREE-DISCHARGE VALVES CONTROLLABLE-PITCH SHIP PROPELLERS

AFFILIATE: S. MORGAN SMITH, CANADA, LIMITED . TORONTO

ALLIS-CHALMERS MFG. CO., 995 So. 70th St., Milwaukee, Wis., describes large pedestal - bearing synchronous motor-generator sets for paper machine drives in a new bulletin. Units are available in standard 2-machine sets—200 to 3500 kw output—125, 250 or 600 volts dc; standard 3-machine sets—300 to 7000 kw output—125, 250 or 600 volts dc, and in special combinations. Construction features include the "Frog-Leg" type of armature winding. Write the above address and ask for "Allis-Chalmers Motor-Generator Sets," Bulletin 05B8175.

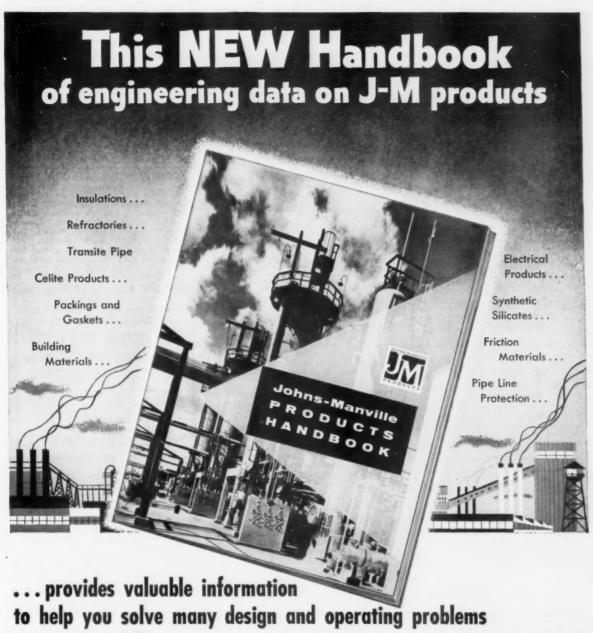
WESTERN GEAR CORP. has broken ground for a new engineering building east of its Lynwood, Calif. plant. The new building will have more than 20,000 sq. ft. of work space and will cost over \$250,000. Quarters for 200 engineers will be provided. Ground breaking ceremonies were conducted by THOMAS J. BANNAN, president. He said facilities at other Western Gear plants will be improved and manufacturing facilities added.

BECKMAN INSTRUMENTS, INC. announces new "magnetic" industrial counting and control instruments operating at electronic speed and precision, yet offering the ruggedness and continuousduty reliability of simple electromagnetic devices, are now in production. Heart of the revolutionary new instruments is a miniature wirewound magnetic amplifier, epoxy resin-encapsulated in a tiny plastic cube measuring only 9/16" on all sides. Trademarked the "ferristor," this rugged electromagnetic component performs most former vacuum tube functions. The tiny amplifier is destined to revolutionize industrial automation, extending applications to heavy industry and saving thousands of dollars and hundreds of man hours of labor, says Dr. Arnold O. Beckman, president.

BABCOCK & WILCOX CO's. Tubular Products Division has bulletin TB-357 with information pertaining to tubular products intended for sub-zero temperature applications. Another booklet, FB-500, furnishes in concise form the types and size ranges of various welding fittings and flanges which can be furnished by the division. For free copies write division sales office, Beaver Falls, Pa.

HAMMEL-DAHL CO. is now presenting a completely new standard line of control valves, the S-3000 series. For detailed information, ask Hammel Dahl Co. at 175 Post Rd., Warwick Industrial Park, Providence 5, R. I., for bulletin 101-C.

CLARK & VICARIO CO. is now offering to the coating industry the Deculator on a guaranteed basis. This high vacuum process removes the air and gas resulting in complete elimination of foam in color suspensions, says J. H. SMITH.



Here is a new handbook which can be a valuable aid to you in many ways in improving operations and lowering maintenance costs in your plant.

Whether your problem is reducing heat loss, fighting corrosion, sealing gases and liquids, controlling motion, filtering liquids, improving formulae or protecting against fire,

weather and wear, this handbook will aid you in finding the solution.

This handbook contains 52 pages of useful up-to-date engineering information on Johns-Manville products used in the process industries. The answers to your thermal insulation problems may be found in the section which shows methods of cal-

culating heat transmission. Also included are tables of heat losses from bare surfaces and equivalent thicknesses of pipe insulation. Graphs provide information on surface resistance for both pipes and flat surfaces.

For your copy of this handbook, simply fill out the attached coupon and return it to us.

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Replies will be acknowledged and will be treated confidentially. Send complete resume of experience, personal data, education and salary requirements to Box 267, PULP & PAPER, 370 Lexington Ave., New York 17, N.Y.

#### **IDEAS INTO CASH**

If you have an idea on a chemical product you have an idea on a chemical product for the paper industry or outlet for existing products we will work with you on such development or duplication. Confidential. Write to Box 266, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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-Size 24 Blaw-Knox Pulpwood Grapples-like new-excellent condition. Being offered at far below

1-Jones #31 Repulper complete with reduction gear and 60 H.P.

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2—Black-Clawson wet lap machines, one 72" and one 96". Completely reworked and like new.

Address inquiries to: Purchasing Department, The Champion Paper and Fibre Company, P.O. Box 872, Pasadena, Texas.

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Wet lap machine or machines for 150 tons per day production of bleached kraft pine or hardwood. Should be able to produce pulp at 45% minimum air dry. Give full particulars including manufacturer, type, date of manufacture, location, price and terms. Write to Box 265, PULP & PAPER, 370 Lexington Ave. New York 17 N. Y. Ave., New York 17, N. Y.

#### TECHNICAL SERVICE REPRESENTATIVE FOR WEST COAST

Opening for Technical Service Representative to service paper mills on West Coast. Applicant must possess practical knowledge in operation of cylinder and fourdrinier machines. Salary commensurate with education and experience. Send resume to Personnel Manager, Lockport Felt Company, Newfane,

#### MECHANICAL ENGINEER

Mechanical Engineer, to take full Mechanical Engineer, to take full charge of engineering department of 300-ton new, modern, bleached kraft pulp and board mill. Responsible to plant engineer. Must have minimum of 5 years experience in the industry. Salary open. Address correspondence to: Personnel Director, East Texas Pulp and Paper Company, P.O. Box 816, Silsbee, Texas Texas

#### SALES-SERVICE MAN WANTED

Established chemical company man with good paper mill or boxboard background for technical sales to board mills and corrugated board plants in central south. Good opportunity to expand established territory. Preferred age 25-35. Write Box No. 257, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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well-established machinery company needs additional sales engineers. Ex-panding products and markets offer excellent opportunities to a progressive, hardworking salesman. Income and benefits above average. Send resume to Box 264, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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For 150 ton Midwest Mill to make semi-chemical corrugating board. Should have experience in the entire production including wood procurement. Contact: Roderick O'Donoghue & Company, 420 Lexington Ave., New York 17, N.Y.

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Mexico in the Isthmus of Tehuantepec, 130,000 acres, timbered. Sound titles. Will give terms to responsible firms.
Exclusive Agent T. C. Pridmore Brown,
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Man thoroughly familiar with the operation of modern high speed fourdrinier machines in the manufacture of paper-board. Technical background desirable, but only in combination with actual papermaking experience. Mill located in midwest as part of integrated paperboard, container and carton operation. Address resume including age, education, and experience to Box 261, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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We will welcome an opportunity to be Ve will welcome an opportunity to be of service, if you are available for a position in paper or pulp manufacturing or paper converting. SEND US YOUR RESUME. Many attractive positions at excellent salaries are open for top-notch men. No fee to be paid unless you accept employment through us. Negotiations are confidential.

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We have immediate openings for quali-fied men in all phases of the paper in-dustry. If you have experience; are looking for bigger responsibilities or a general management assignment, we can assist you. No retainer or place-ment fee to be paid unless you accept employment through us. For confiden-tial service call, wire or write.

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#### New Name Reflects Growth Of Seattle Fabricating Firm

Puget Sound Sheet Metal Works, Seattle, Wash., has taken on a new name as Puget Sound Fabricators, Inc.

President Gordon B. Anderson said the old name was conveying only a limited impression of the wide scope of the company's current operations, much of it as fabricators for pulp and paper mills.

The firm, founded by David Bowen in 1900, originally specialized in roofing and sheet metal work. Today it is serving all parts of Western U. S. and Alaska in custom fabrication of steel, stainless steel, aluminum, nickel, copper, and other metals up to 1 in. thickness, and applying protective linings for vessels and tanks.

Its modern 70,000 sq. ft. plant pioneered construction of the first Lukens stainless clad acid tanks for mills in the West. It has fabricated evaporators, heat exchangers, pipe fittings, cookers and lined process tanks.

Harry S. Bowen is chairman; Mr. Anderson, president; George T. Dexter, executive vice president; George K. Taylor, vice president, production; and Howard R. Smith, sales manager.

#### Left Limit of Airline Insurance to Daughters

Friends of the late Frederick S. (Stew) Morgan, former pulp and paper engineer, who was killed with his wife in the destruction of an airliner in Colorado by a planted bomb explosion, will be interested to know he bought \$125,000 insurance—the limit—just before taking off, for their two daughters, Sharon, 14 and Suzanne, 12.

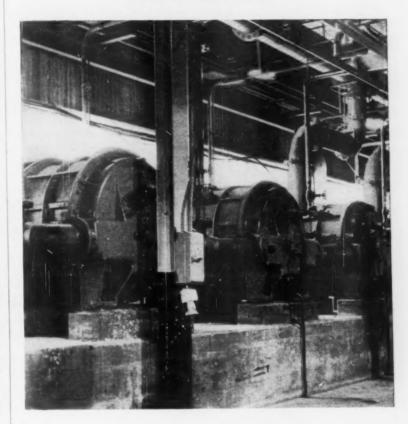
The daughters are living with a grandmother, Mrs. John C. Smith. Their address is 8167 French St., Vancouver, B.C. (14). Other relatives live there and in Seattle. A trust fund is being set up for the girls. Mr. Morgan was engineer at St. Helens, Ore., at Canadian mills and did work for mills in South Africa and elsewhere.

#### A Book on Cost Problems

"Company Approaches to Production Problems," published by American Management Association, 330 W. 42 St., New York 36, N.Y., price \$1.75 (AMA members, \$1.00) pays particular attention to inventory, warehousing, traffic problems and all distribution costs.

Inventory control programs of Westinghouse Electric Corp.; Ford Instrument Co., a division of Sperry Corp.; The Bullard Co., and General Foods Corp. are described by company officials.

# What, actually, do Vacuum Pumps on paper machines handle?



Paper mill engineers know that it is actually a mixture of air and water vapor, but the custom of rating vacuum pumps in terms of air capacity alone causes this important fact to be frequently overlooked.

The presence of this water vapor causes a considerable reduction of the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump the bulk of this water vapor is effectively condensed, due to the Nash operating principle. The air handling capacity of the Nash is therefore not reduced.

That is one of the reasons why Nash Vacuum Pumps are standard in over a thousand leading Paper Mills.

#### NASH ENGINEERING COMPANY

443 WILSON ROAD, SO. NORWALK, CONN.

#### Magazines, like Papers, Face Price, Supply Problems

The newsprint shortage and price increases have been getting most of the publicity in recent months; naturally, in newspapers. But *Printer's Ink* points out that a record demand and limited production is making things rugged in the book paper field, too.

It predicted further price increases in 1956 in both sheet and roll book paper grades. In fact some book paper increases were announced in January, of 2 to 5%. Many producers of roll book paper increased prices last fall and other prices went up last summer.

Two major reasons for a "tight" market for magazine paper grades, said *Printer's Ink*, were (1) increasing consumption by magazines which already have all-time record high circulations and numbers of pages; and (2) the decision of West Virginia Pulp & Paper Co. to ease out of the light-

weight book paper market. New machines, as in the case of Consolidated Water Power & Paper and others, are expected to take up the demand, how-

This is borne out by APPA reports which reveal 60,450 annual tons new capacity coming in 1956, and 62,000 in 1957, via new book paper and groundwood machines, with other improvements adding an additional 49,000 tons in 1956 and 14,000 in 1957. By the end of 1955, book and groundwood capacity was brought to 3,862,-910 tons, up 73,160 tons from the end of 1954.

*Printer's Ink* forecast that magazines generally would have to resort to another hike in advertising rates.

It made a survey of buyers for consumer and trade magazines and found there were no reports that any publication ran out of paper for any issue. Some suppliers were back-ordered 7 months. A new magazine would have a hard time getting paper.

#### Major Expansion of Paper School at Kalamazoo

A sizable addition to the space for the paper technology department at Western Michigan College will be ready for use in the fall of 1956,

Dr. A. H. Nadelman, head of the department, has been working closely with architects. With enrollment steadily climbing, the additions will provide a classroom, laboratory and lecture room seating 144 persons on the lower level, more classrooms, offices, a library, various laboratories and a pilot area 24 by 66 ft. for large experimental equipment.

The addition will have interior connections with 5-year-old McCracken Hall, where chemistry and physics are taught

#### U. of Alabama Pilot Plant

U. of Alabama, of noted football fame, has established a \$10,000 pilot pulp mill for its paper course in the Tuscaloosa, Ala., campus.

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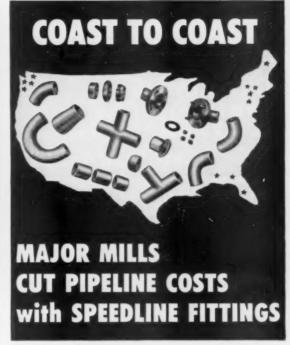
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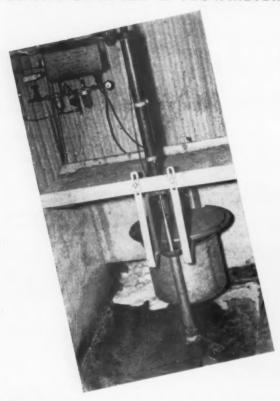
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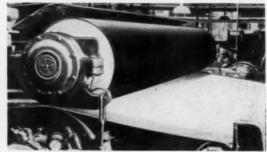
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... and in the field our experienced sales engineers work closely with paper-makers, advising them of our new improvements and techniques . . . helping them select the proper felt for their particular application. Oriskany produces only paper-maker's felts. Our efforts are concentrated on making better felts . . . to help you make your paper products better . . . faster . . . at less cost!

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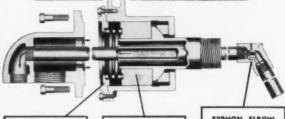
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# PULP & PAPER

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### The LAST WORD

# PULP & PAPER

### EDITORS' PAGE

#### **About Another Kind of "Paper Week"**

With the industry's annual "Paper Week" this month, the suggestion made by PULP & PAPER editorially at times in the past, might be brought out of the closet and dusted off again.

Perhaps the industry's leaders who are gathering soon in mid-Manhattan will consider giving this some thought.

Why not have a Paper Week for the whole country? Almost every other industry, organization, popular activity, etc., seems to have one special week in the 52. For example, there is a really successful Cotton Week. A lot of advertising dollars are spent that week to build up the cotton industry.

There could be displays of the many new unusual paper products, of the industry's growth, its forest practices, news stories, magazine articles, programs for TV, radio and public gatherings, etc. In big cities and in mill towns, this could really develop into something.

For several years now the industry has had an Open Industry meeting at New York Paper Week on the Waldorf's Starlight Roof. This, of course, is partly inspired as a "selling job" for the industry. Regrettably, there haven't been outstanding results. Sure, the New York Times and the New York Herald-Tribune and possibly a few other big papers, use a few sticks of type about it. But by and large, the country doesn't even know it happened.

It isn't an easy task to sell an industry to the public, to the colleges, to the government bodies, etc. But if done right, it should be one of the most satisfying and worthwhile accomplishments.

President Leslie, who ends his term as head of APPA this month, says pulp and paper has climbed to No. 4 position among U.S. industries. It is the 3rd fastest growing, according to Nation's Business. Many other ratings testify to the eminence and growing importance of paper. An intelligent general public, appreciative of this importance, would be a real asset—not only to this industry, to the whole nation. We might avert such mistakes as were made in 1941, when mills were shut down as "unessential."

#### A Man for Industry

The industrial world is the poorer when men retire like Charley Sage, vice president of Kimberly-Clark since 1937 and president of Spruce Falls Power & Paper Co. almost as long.

He was a national leader in the forestry world. He made his early marks as a salesman. But his greatest gift is this—he has a knack of getting close to people and he likes people. His neighbors around his ranch out in California will find this out.

This industry-all industry-needs more Charley Sages.

#### Is This Some Sort of Justice?

Back in 1946, Liberty magazine published a picture entitled "Our Vanishing Forests," showing a logged-off hill-side in the huge St. Helens Tree Farm of western Washington. The picture actually had been taken in 1940, and by 1946, it looked much different.

Former Secretary of Interior Ickes was quoted in the accompanying story in Liberty as saying: "Until lumber-

jacks stripped this hillside, it was a forest. Now it's prey for erosion."

Just nine years later (15 years after the first picture was taken), Life magazine published a picture of same hillside, so thick with thriving coniferous trees, that nowhere could the ground be seen. Some were 30 ft. high. They were tiny 3 year old seedlings when the 1940 picture was taken. They couldn't be seen in that picture and neither Mr. Ickes nor Liberty took the trouble to find out about them.

Many of our readers will recall *Life's* article in its Oct. 31st issue, and will be interested to learn this connection between the two stories. *Life* said the timber industry is growing more than it cuts. This was confirmed in the recent decennial Timber Resource Review of the U. S. Forest Service.

Mr. Ickes and *Liberty* chose to ignore that their picture was of a "working" tree farm when a new crop had already started growing. *Life* said the trees here were "a carefully tended agricultural crop, a long range investment," and added that such "block cutting assures a steady supply for decades to come."

Maybe there is some sort of justice in what has happened to *Liberty* and to *Life* in those nine years, too.

#### **Entre Nous**

Occasionally, on this page we think it might be interesting to let our hair down a bit, and tell you some things about our hard-working, far-flung editorial staff and their accomplishments.

In this issue is a story you might be interested in, telling how a new kind of "noodle" semi-dry pulp is being shipped from mill to mill, out on the West Coast and down in Texas. It could become pretty important. It doesn't seem very efficient to go to a lot of terrific expense and work—technical and mechanical—to dry pulp for shipping, ship it to a converter and then turn it right back into wet pulp. Now, this is partly eliminated by the "noodle" pulp. Our "exclusive"—about shipments of over 1,000 miles by a barge, with equipment aboard that works the pulp, too, is quite a sensational story.

Several PULP & PAPER editors and offices "teamed up" to get this story for you. A correspondent in Japan got into the act. From Coast to Coast messages and "tips" flew back and forth. Even Harlan Scott, who will be remembered by a lot of our readers as a former Editor of PULP & PAPER (up to his ears in ships and shipping business), helped out his "old love" (meaning this magazine, if you pardon the term).

It was Charles Lugrin Shaw, our Canadian editorial director (with the wavy silvery locks), who put the final "bite" on it. Friends say Charley Shaw is a double for the late O. O. McIntyre, which won't mean anything to you unless you are old enough to remember the famous Hearst columnist.

PULP & PAPER is proud to have Mr. Shaw as its "ears" and "eyes" and "voice" in Canada. He was business editor of a leading Canadian daily newspaper for many years, so he came to this magazine long ago, already with a great many personal friends in top Canadian industrial management. Pulp and paper is No. 1 industry and the only billion dollar industry in Canada, so he naturally had many friends among Canadian pulp and paper companies, and he still has, now he has many more, after close to two score years of writing news for this magazine.



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